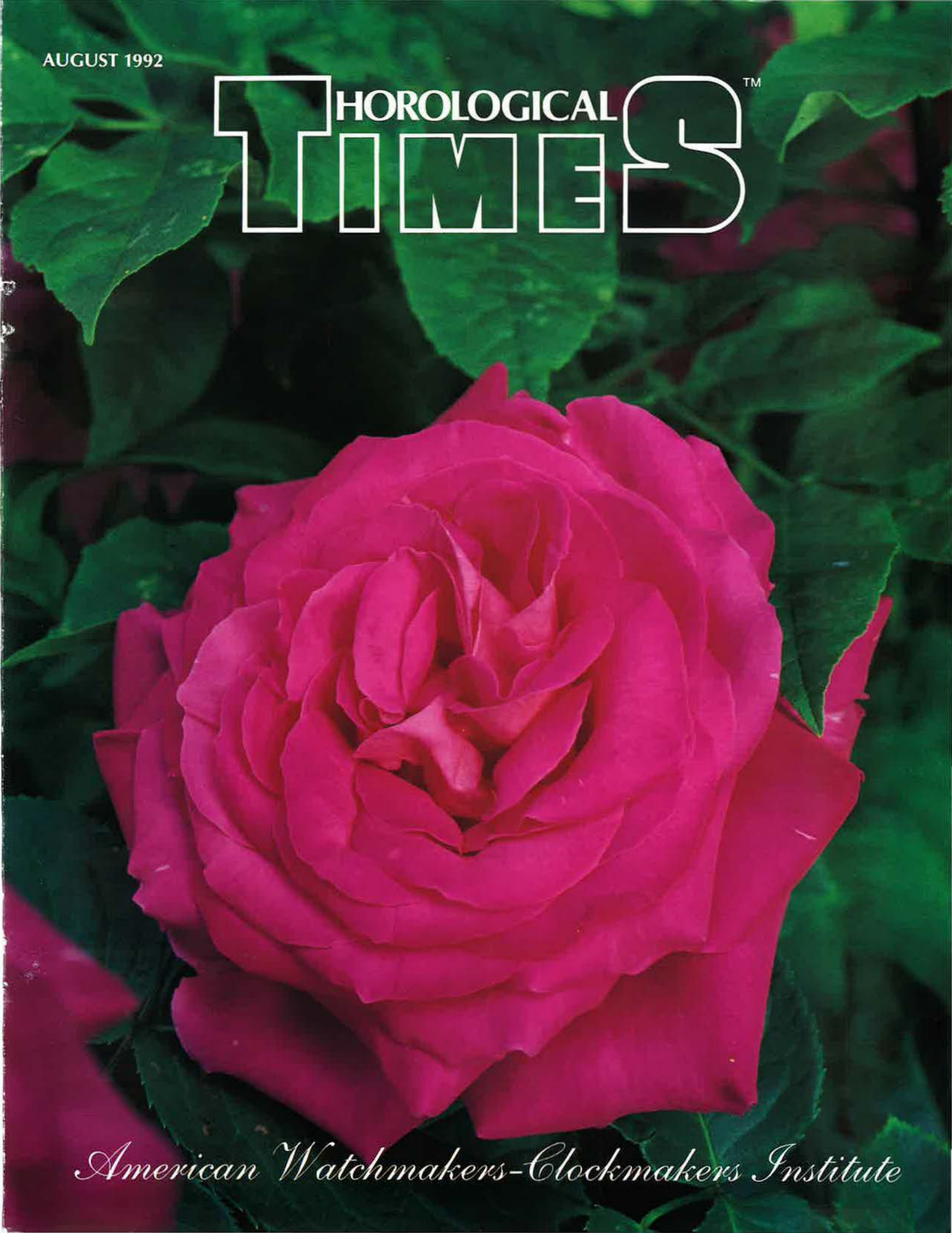
AUGUST 1992

HOROLOGICAL TIMES™



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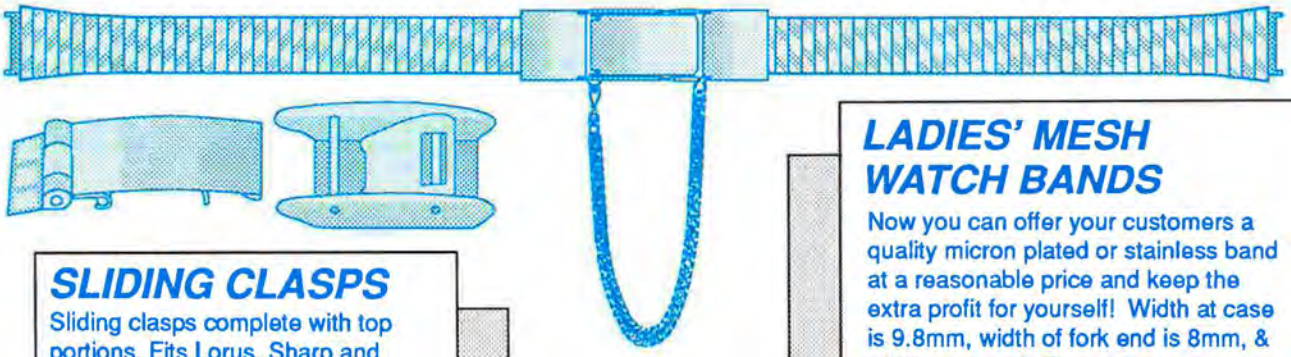

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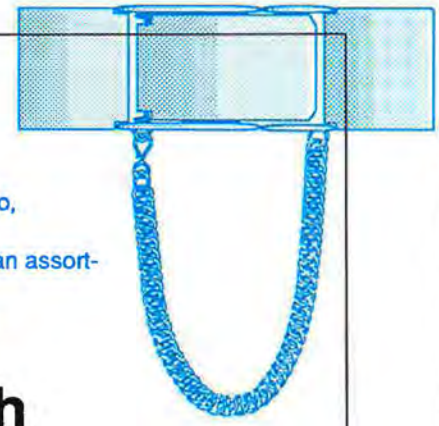

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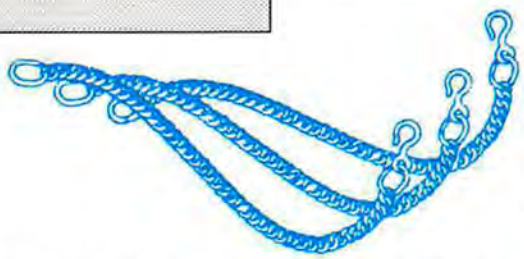

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President's Message

As your new President it is my duty and pleasure to write this column during this fiscal year. Following Alice Carpenter is not an easy task, but here goes . . .

During our Board meeting at the "changing of the guards," I was thinking how different our AWI system of election is compared to national politics. There are several notable differences. We do not start by putting down the present administration by saying how bad the people are and what a poor job they did, etc. Instead, it's quite the contrary. We recognize the fact that the last AWI administration did a fine job. We hope to continue this policy to the best of our ability and somehow measure up to this fine job done by the last set of officers and board members. I believe we need to keep the status quo, but we also need to add new ideas as they are presented to us in order to advance our mutual goals.

As President, it is also necessary to respond to situations as they develop and react to them in a manner that will be for the betterment of our members and our industry.

It is the job of the Board of Directors to responsibly run our organization with a lot of common sense and with full adherence to the AWI Constitution and Bylaws. It is very important to follow our Constitution. It is true that it is very difficult to change any item in our Constitution. The expression "it takes a constitutional amendment" sounds like it would be impossible to make any policy changes. This is not exactly true since changes can be made in our Constitution by following proper procedures.

The Board of Directors have been elected by the complete AWI membership, and this means all of us. We are like one big, happy family, and the good news is we have received quite a few new family members this past year. Yes, last year's membership has increased by 89. This may not seem like a lot, but with our average members' ages in the late 50s and many retiring, this is not bad.

Again, let me thank you for the confidence you have placed in me. I pledge to do my best to live up to it. I will need a lot of help from our Past President, other fellow Board members, and, of course, the entire AWI Central staff. In fact, we do need to help each other and this takes time. So let's take time and make time for each other.

Wes Door

ON THE FRONT: Garden Rose by Dale LaDue of Rochester, NY.

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Taking the pulse

"I don't know what your destiny will be, but one thing I know, the only ones among you who will be really happy are those who have sought and found how to serve—
ALBERT SCHWEITZER

Pat Madden's special area of service contributes much to her personal happiness. Three years ago her love of the theater, coupled with a desire to be active and make new friends, led her to volunteer to take part in an effort to revitalize Cleveland's downtown theater district.
As a "Playhouse Square Volunteer", Pat frequently devotes more than 60 hours a month during the busy season working as a tour greeter, usher and planner of special events. She was recently honored for her efforts with The Mayor's Award For Volunteerism.
Pat has been with Eveready® for 17 years. When she isn't at work or doing duty at Playhouse Square, she likes to travel. She has been to Europe three times, Australia once and to countless places in the U.S.

Pat Madden's second floor workplace has an interesting history. Before it became the property of Eveready® it was a showroom for new Hupmobile automobiles (circa 1930). Today its ornate columns and moldings are home to row upon row of "computer controlled test cabinets" which hold *thousands* of miniature batteries of every conceivable size and type.

These tests measure the electrical discharge of a battery and are designed to test longevity under various use situations. They are ordered and evaluated by Eveready® engineers. It is the responsibility of Pat and her counterparts to set up the tests then carefully monitor the information from each test on a regular schedule. It's all part of the process that assures Eveready® watch battery customers the ultimate in quality and performance.

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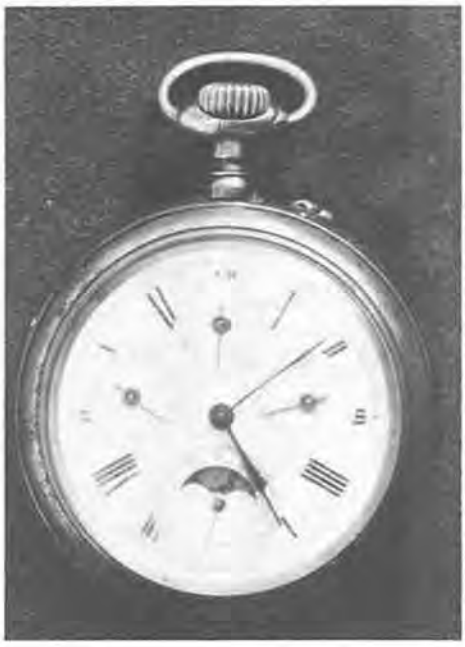
Questions & Answers

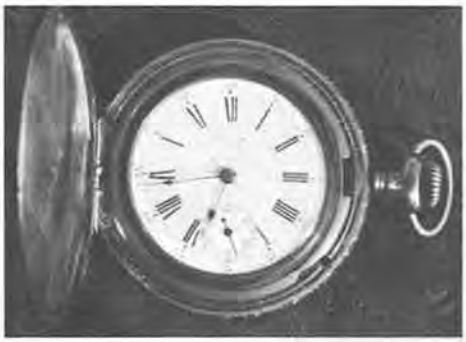
Henry B. Fried, CMW, CMC, FAWI, FBHI, ★FNAWCC

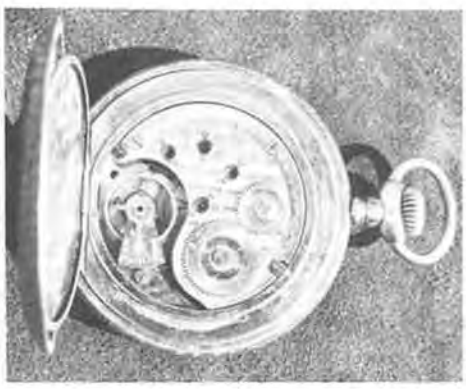
AN ALTON WATCH

Q The enclosed pictures are of two different watches that belong to one of my customers. Three pictures are of an Alton watch. I can't find any information on this watch, who made it, when, etc. Can you help out?

There are three pictures of another watch that has no name but looks to be quite old and foreign made. The case is gunmetal blue with gold edges. There are four buttons around the case to set the different dials. Can you give us any information on this watch? The only copy on this watch is the number 2098 inside the back cover.







Richard L. Sterne
Orem, UT

A *The Alton watch was made for Sears Roebuck back in the first decade of this century by the New York Standard Watch Company.*

Notice that the watch has a crown wheel and ratchet, yet no click. These were for show and still cheaper ones omitted these visible wheels. There was another name associated with this same watch and that was Edgemere, another Sears Roebuck name for some of the cheaper watches.

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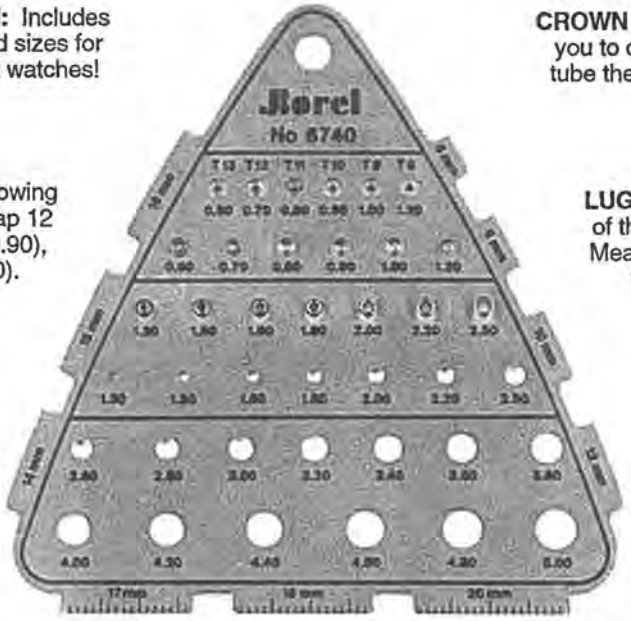
NEW DESIGN: Includes small taps and sizes for todays quartz watches!

STEM TAP: Measures the following tap sizes. Tap 13 (0.60mm), tap 12 (0.70), tap 11 (0.80), tap 10 (0.90), tap 9 (1.00), and tap 6 (1.20).

CROWN TAP: Permits you to determine the crown tap size, exactly as indicated above.

CROWN DIAMETER: Diameters 2.60, 2.80, 3.00, 3.20, 3.40, 3.60, 3.80, 4.00, 4.20, 4.40, 4.60, 4.80, 5.00



Shown actual size

CROWN OPENING: Permits you to determine the case tube the sample crown fits.

LUG WIDTH: Determine the width of the strap or spring bar needed. Measures widths: 6, 8, 10, 12, 14, 15, 16, 17, 18, and 20mm.

CASE TUBE: Sizes 1.30, 1.50, 1.60, 1.80, 2.00, 2.20, and 2.50.

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The other watch is Swiss of the LeLocle area. These too were cheaply made. The calendar mechanism could be bought as is and fitted to any pocket watch, making it a calendar watch which was attractive to certain buyers. The date is at the turn of this century. The movement, although not badly finished, still had the economical cylinder escapement.

Ehrhardt's book ***Watches****, page 163, shows the Edgemere but without the winding wheels.*

Q In 1939 I got a job as a watchmaker in a jewelry store in southern Missouri. In one of the cigar boxes of junk watches I found this watch. I bought it from the owner for $25.00. As I was only making $10.00 a week, I had to pay it out at a rate of $1.00 a week.

As you can see, it has the name of two famous watchmakers (Huguenin-Breguet) on the dial as well as on the movement. It is about 18 ligne, S.N. 28062. The case has the same S.N. 28062 and on the inside back cover it has Plaque 'D' or, Garantie 20 AN-- I can't make out the remaining letters in the last word. The most unusual thing about this watch is that it is gold-filled, not solid gold as you would expect from a watch of this grade.

The watch is a full minute repeater. When I bought it the stem and crown were missing and the rack return spring under the dial was broken. I made the stem and spring from scratch. The watch had 16 jewels when I bought it and later when preparing for the certified exam, I jeweled the repeater train through the hammers. Also, the original hairspring was too long and had a bad sag so it didn't keep time very well. I made a new one with fewer coils and then it would keep time with the best.

I was 19 in 1939 when I found this watch. I have had it a long time. I would like to know who made it, when, and why the name. I am sure Huguenin nor Breguet had anything to do with it. It must be rare because I have never seen another one that small or in a gold-filled case.

K.C. Denney
Tulsa, OK

A *I like the story and photos of the watch. I don't think you overpaid for it either. The movement is probably that from the LeCoultre factory in Geneva, close to the turn of the century. LeCoultre made many like these and sold them unmarked to various people who put their own name on them. The Huguenin-Breguet means little. The finish of the movement is a very high grade.*

As for the gold-filled rather than gold case, that is strange unless it was a special order for someone who preferred to pay more for a good movment from his meager budget. Rare, but it happens. The fact that the watch only had 16 jewels is also something that strengthens my opinion as to economy.

I liked your dedication in upjeweling the watch and the results are fine. Enjoy it for many years.

Henry B. Fried

❑

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PROJECT EXTEND OFFERS QUARTZ REPAIR OPPORTUNITIES

Individuals who are at various stages of efficiency in the repair of quartz watches will have one or more opportunities to improve their skills in this field by attending any of these three quartz watch repair programs scheduled for Project Extend.

QUARTZ I -- September 28-October 2, 1992

Quartz I is a beginner's course in quartz watch repair taught by Gerald G. Jaeger. Quartz I is designed for mechanical watchmakers who have not ventured into the electronics/quartz arena. This course has its beginning in the study of basic electricity, volts, ohms, amps, and it deals with their measurement. Measurement studies include practical use of the multimeter, commonly referred to as the VOM.

The course progresses to circuitry relative to horology and components found in watch circuits. It deals with the function and application of the resistor, diode, and transistor as they are used in timepieces. The course addresses itself to understanding the actual tests made while servicing quartz watches. Disassembly, assembly, and study of the train, calendar, and step motors as well as other components as they may vary from traditional mechanical watch functions will be studied.

This course is not designed nor intended for beginning mechanical horologists.

The skills required to be efficient in mechanical watch repair are prerequisites. Highly developed hand/eye coordination and the ability to diagnose and correct malfunctions in mechanical watches are included as prerequisites. The proper application and use of tools employed in the repair of mechanical watches is necessary. The understanding of electricity as applied to horology is *not* a prerequisite.

QUARTZ II -- October 5-9, 1992

Quartz II is an advanced course in quartz watch repair taught by Robert F. Bishop. This course is designed to provide practical experience in the diagnosis of quartz watch repair problems. Using a variety of watches, participants will learn to identify various malfunctions that occur in quartz watches.

All students *must* be experienced mechanical watchmakers and should have some basic knowledge of quartz watch repair and meter use. They must agree to Project Extend's student policy regarding prerequisites and the consequence of not having them.

The objectives of this course are to acquaint participants with quartz watch malfunctions, the methods for determining these problems, and all other aspects of providing quality quartz service.

The methods of instruction are slides, visual projections, video, demonstrations, lectures, technical bulletins, and practical work.

QUARTZ III -- October 12-16, 1992

Quartz III is taught by Alice B. Carpenter and involves review of all aspects of quartz watch repair in preparation for taking the AWI Certified Master Electronic Watchmaker Examination. During the review sessions, participants can seek clarification on any theoretical or practical aspect of quartz watch repair for which they have concerns. Once the exam begins, instruction ceases and the participants independently complete work on both the written and practical exam requirements without any assistance.

Applicants should review the prospectus for the CMEW examination before enrolling for this class. Applicants should have considerable experience in quartz watch repair. Completion of an advanced course in quartz watch repair is desirable.

Contact AWI Central for complete details about these quartz opportunities which are offered just once a year at Project Extend. It's an excellent opportunity to "get caught up on quartz." ❑

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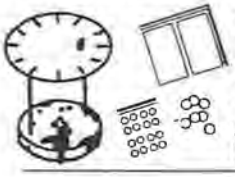

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ROCK QUARRY et tu

Fred S. Burckhardt

More on Washington's Watch

And you thought this column didn't have any pull!

Do you remember several months ago the story about George Washington's watch? Well, let me tell you about several events that have taken place since that time.

First, there were thousands of loyal readers who demonstrated in front of the National Archives Building in Washington, D.C. They called themselves the Three W's (Where's Washington's Watch?). There were even members of Congress who joined in on the demonstrations.

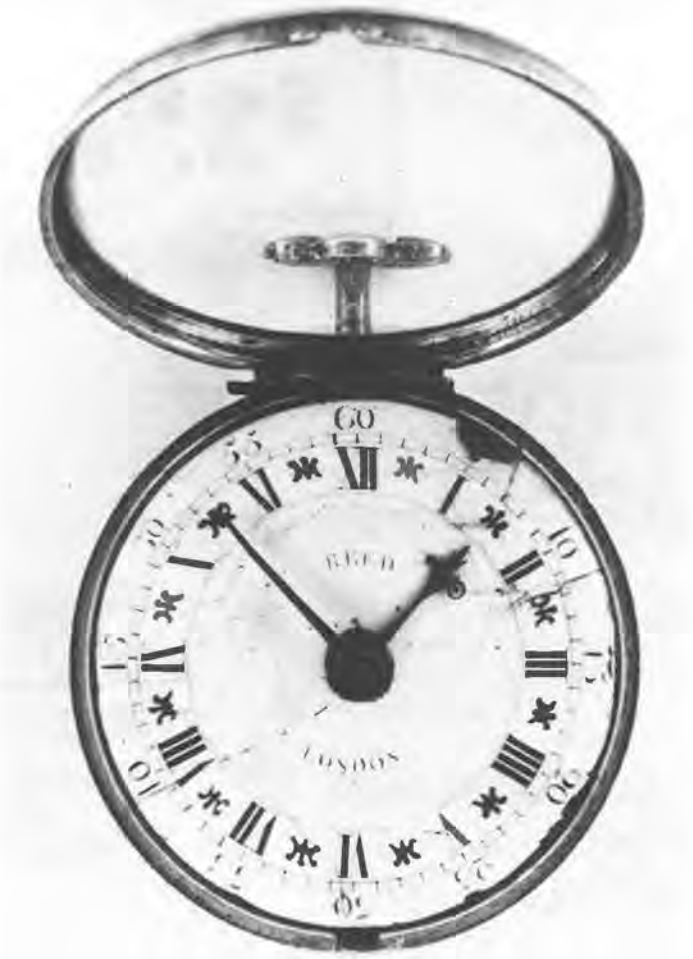
Next came the phone calls. The President called first. He explained that he was behind this effort 100%, but wouldn't be able to do anything until he got the budget balanced.

Then the Vice President called. He wanted to help, too, but he was tied up with trying to find a husband for Murphy Brown. Even the Secretary of State wanted to get into the act, but he couldn't afford to get tied up with any domestic problems. Other Congressmen called and wrote letters. These had nothing to do with the watch; they only wanted my vote.

Then strange things started to happen. I was contacted by the FBI, CIA, AF of L, the NRA, and Ed McMahon. Ed told me if I would drop the whole thing he would make me the winner of the million dollar jackpot.

This thing started to get out of hand. Even Boris Yeltsin offered his help because he claimed George Washington was born in Russia.

Then a call came from Ross Perot. He said that if we waited for the government to do something, it would never get any action. He wanted to form a



clandestine group to storm the archives building and get the files. I told him I really didn't think that would be necessary and I didn't want to see anyone getting hurt over this matter. He called me a pinko commie and hung up.

The most disturbing call came from a fellow who called himself "Shallow Lung." He said if I would meet him in the parking garage at the Watergate, he would give me some information that would blow this thing sky high. He told me he would throw in some pictures of George and some floozy taken at a Philadelphia night spot. Being a scholar of Sherlock Holmes, I sensed something was wrong when he said the pictures were taken a couple of months ago.

Then it happened. I received a call from a little old watchmaker in Washington named S.T. Jenssen. He said that one of his customers owns Washington's watch, and even sent me some pictures of the watch. He said there was documentation to prove its authenticity, and even some to prove it was real. Having known this fine gentleman for some years, I can attest to the fact that he is an honorable person and would rather be struck down than tell a lie. Sort of like George, isn't he? The pictures are shown, proving that any person can get something done when he knows he's in the right.

Now that this quest has turned out successfully, we can't stop there. Too many things are left unanswered. But let's not dawdle with the little things. Let's instead go right to the top and consider something really important: What about Jim and Tammy's watches?

❑

Archie B. Perkins, CMW, FNAWCC, CMBHI

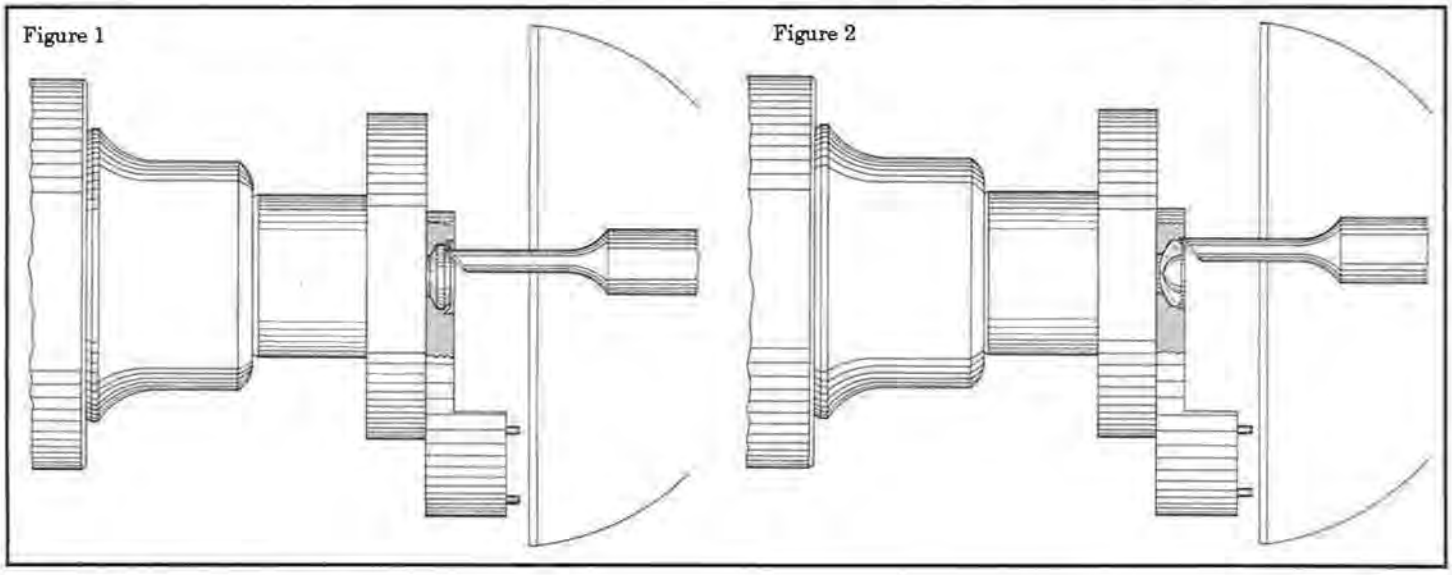
Antique Watch Restoration ©1992

PART LXXX
SETTING BALANCE HOLE JEWELS INTO BALANCE COCKS

When bezeling a balance hole jewel into a balance cock, one should first determine from which side of the balance cock the jewel is to be set. If the jewel is to be set from the outside of the balance cock, the cement brass must be of such a diameter or shape that will allow the cock to rest flat on the end of the cement brass. On the other hand, if the jewel is to be set from the underside of the cock, the diameter of the cement brass must be larger so that the complete top of the balance cock can rest flat on the cement brass. NOTE: This was shown previously.

The following method may be used to cement a balance cock to the face of a cement brass. Let us assume that we have a balance cock which has had a jewel bezeled in from the underside. This means that the top of the balance cock will rest flat on the cement brass. First, one would push out the old damaged jewel. Then, the cement brass is selected and placed in the lathe spindle and checked for flatness. If the cement brass is not running true in the flat, it is faced flat with a slide rest. Next, the cement brass and balance cock are cleaned in denatured alcohol. This is done so the shellac will adhere to their surfaces. After this, an alcohol lamp is used to heat the cement brass as some orange shellac is melted on the face of the cement brass. Then the balance cock is placed on the face of the cement brass and heated until the shellac adheres to the balance cock. The blunt end of a piece of pegwood is next used to press the balance cock flat against the face of the cement brass. Then, a pointed pegwood is used in the hole for the jewel to center up the hole. The pegwood is rested on the "T" rest as the lathe is turning slowly to center up the hole for the jewel. After the hole in the cock is running true, the alcohol lamp flame is removed from the cement brass. One should continue to turn the lathe slowly with the pegwood in the hole until the shellac cools. This is to assure that the hole will remain true during the cooling off of the shellac. It is very important that the balance cock runs true in the flat and that the hole for the jewel runs true before any work is done on the hole to prepare it for the new jewel.

Figure 1 shows a bezel burnisher being used to open the old bezel for the new jewel. After the bezel has been opened, the new jewel is selected. It is very important that the new jewel has the proper sized hole to fit the pivot correctly. Usually the hole should be .01 mm



larger than the diameter of the pivot. The diameter of the jewel is also very important.

Figure 2 shows the bezel being burnished over onto the corner of the new jewel. Prior to placing the jewel into its hole, some oil should be applied to the new jewel. Then, the jewel should be leveled in its hole. This is done with a pointed pegwood supported on the "T" rest. After this, the bezel burnisher is used to burnish the bezel over onto the corner of the jewel. The jewel should then be checked for tightness. After the jewel has been set, the cement brass is reheated to remove the balance cock from the cement brass. The balance cock is then soaked in a container of denatured alcohol to remove the shellac.

When a balance hole jewel is bezeled into the balance cock from the top of the cock, the thickness of the jewel selected is very important. This is because a jewel that is too thick will take away the needed oil space between the cap jewel and the balance hole jewel. On the other hand, if the jewel selected is too thin, there is likely to be too much oil space between the two jewels. The oil space between the cap jewel and the balance hole jewel should be between .02 mm and .04 mm.

BALANCE HOLE JEWEL AND CAP JEWEL ASSEMBLIES

Figure 3 shows two balance hole and cap jewel assemblies. View A shows an assembly which is seen most commonly in some of the older watches and in some of the lower priced watches. In this case, both the balance hole jewel and the cap jewel have flat surfaces which require that the flat surface on both jewels must be absolutely parallel to each other in order to establish the proper oil ring between the two surfaces. Any out-of-parallelism between the two surfaces will prevent one from getting a centered oil ring around the pivot hole. A well-centered oil ring is necessary in order to assure that the balance staff pivot will receive the proper lubrication over a long period of time. Capillary attraction holds the oil between the two jewels. The oil is attracted to the closest space between the two surfaces of the jewels; therefore, if the two surfaces are out of parallel with each other, the oil will be attracted toward the close space which causes the oil ring to be off center,

Figure 3

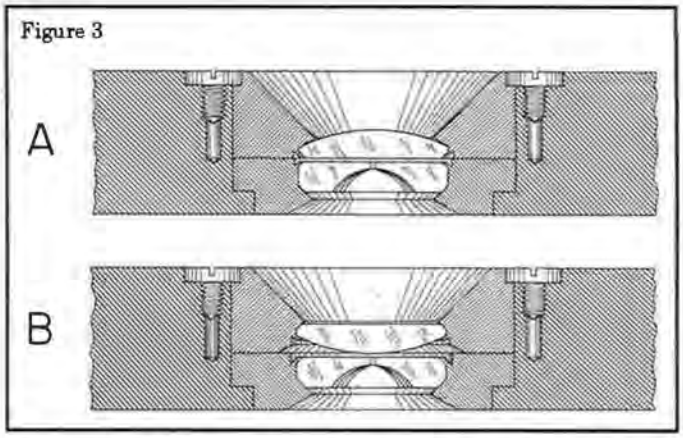
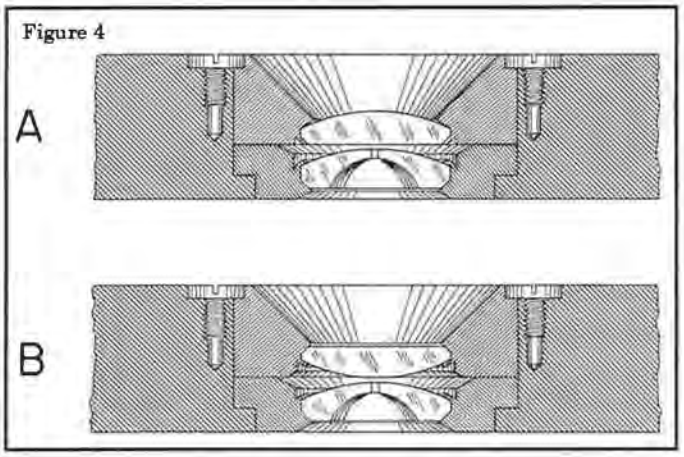


Figure 4



leaving the pivot dry in most cases. The only correction for this condition is to replace one of the jewels with one which has a convexed surface. This will cause the closest space to be around the pivot hole which will result in an oil ring around the pivot hole.

View B, Figure 3 shows an assembly which has a flat balance hole jewel but has a convexed cap jewel. This condition allows one to get a centered oil ring around the pivot hole. This assembly is satisfactory, although it would be better to have the surface on the balance hole jewel convexed and a flat surfaced cap jewel. In order to equalize the resistance on the balance staff pivots, the ends of the pivots should turn on a surface which is as flat as possible. There is more resistance to the movement of the balance wheel when the balance staff is in a horizontal position. This occurs because the pivots are pressing on the surfaces of the two jewels instead of on only one jewel as when the balance staff is vertical.

HIGHER GRADE BALANCE HOLE AND CAP JEWEL ASSEMBLIES

Figure 4 shows two examples of jewel assemblies which are used more universally in better grade watches. View A shows the most used design in balance hole and cap jewel assemblies. This design uses a flat cap jewel and a convexed balance hole jewel. View B, Figure 4 shows an assembly which is used in some very high-grade watches. In this case, both the cap jewel and the balance hole jewel have convexed surfaces. Note that the balance hole jewels shown in Figure 4 have olive holes. This means that the surface inside the hole is convexed which reduces the amount of surface contacting the balance staff pivot when the staff is in a horizontal position. This reduces the resistance to the motion of the balance wheel when the watch is in a vertical position. This condition helps to equalize the resistance between vertical and horizontal positions of the watch. When we have a convexed cap jewel and a convexed balance hole jewel assembled together, we are more assured of having a concentric oil ring.

OILING BALANCE HOLE AND CAP JEWEL ASSEMBLIES

Figure 5 shows how balance hole and cap jewel assemblies are oiled. View A shows the oil being applied in the oil sink of the balance hole jewel. This is done with a small polished tip oiler. Care must be used to avoid applying too much oil. Also, one should be careful to apply the oil in the center of the oil sink. NOTE: It would be better to first apply a small amount of oil, then punch it through, and then add more oil to get the desired diameter oil ring than to apply too much oil at the beginning. When the oil ring is too large, the oil is likely

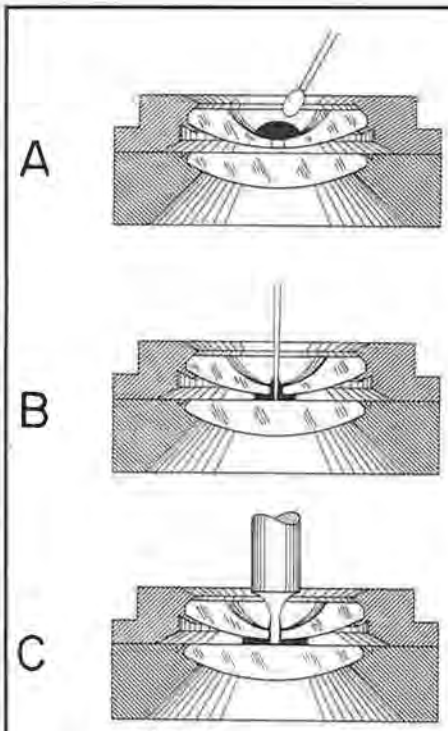


Figure 5

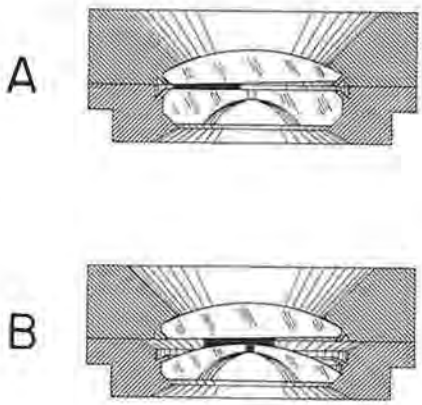


Figure 6

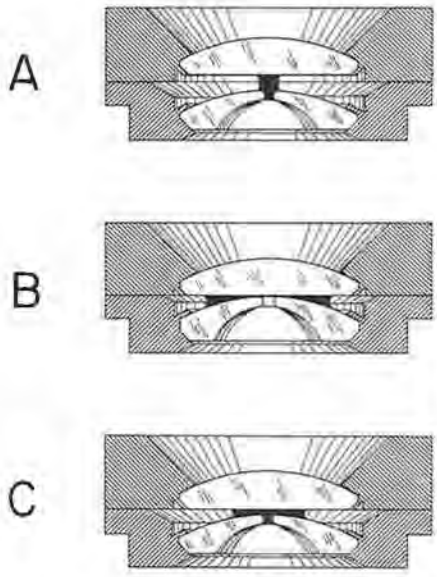


Figure 7

to break away and run into the bezel grooves leaving the pivot dry.

View B, Figure 5 shows an oil pusher being used in the hole of the balance hole jewel to cause the oil to go between the two jewels. The space between the two jewels must be correct; otherwise, it will be difficult, if not impossible, to push the oil through. If the two jewels are too far apart, it will be difficult to push the oil through the hole. Also, if the two jewels are touching each other, it will be difficult to push the oil through. The most ideal situation is when the oil is applied to the oil sink and is sucked through automatically without using the pusher. This does not occur very often, though. View C, Figure 5 shows the oil ring after the oil has been pushed through the hole and the pivot is in place through the hole in the balance hole jewel.

FAULTY BALANCE HOLE AND CAP JEWEL ASSEMBLIES

Figure 6 shows faulty assemblies. View A shows an assembly that has a flat cap jewel working with a flat balance hole jewel. The cap jewel was set in an out-of-flat condition. This leaves the two surfaces out of parallel with each other. Note that the oil ring went to one side of the center of the jewel when it was pushed through the hole in the jewel. This leaves the pivot dry. View B, Figure 6 shows an assembly which has a flat cap jewel and a convexed balance hole jewel. This type of assembly should produce a nice concentric oil ring, but since both of the jewels have been set out of flat, the oil ring is off center. NOTE: This off-center condition is sometimes greater than is shown. This causes a need for adding extra oil in order for the edge of the oil ring to cover the pivot. As a result, the outer edge of the oil ring often breaks away and runs into the groove around the jewel, causing the pivot to be dry a short time later.

Figure 7 shows other examples of faulty assemblies. View A shows an assembly which has too much space between the two jewels. As a result, the oil is difficult, if not impossible, to push through the hole. If one is able to push the oil through, it takes much oil to form a ring of any size. This condition may cause the oil to break away and run down on the cone of the balance staff.

View B, Figure 7 shows an assembly which has the two jewels touching each other. This condition also makes it very difficult, if not impossible, to push the oil through. If one is able to push the oil through, very little oil makes a large diameter oil ring. This condition leaves the pivot dry in most cases. Also, if the oil ring is too large, it is likely to break away and run into the groove around the jewel.

View C, Figure 7 shows the correct assembly. The oil ring is concentric and about the correct diameter. The space between the two jewels is approximately the correct amount. The oil in this assembly should last the required amount of time if the jewels were cleaned correctly and the oil is of good quality.

Antique Watch Restoration will continue next month. ❑

SHOP TALK

Wes Door, CMW

FORMS AND ORDERING MATERIAL

Whether we are just starting in business or need to update our methods of operation, we need forms.

JOB ENVELOPES

Plain job envelopes (sold at office supply stores as coin envelopes) are the first items needed to take in watch or jewelry work. Better than the plain envelopes and still economical are the factory-printed envelopes. The best of these are the ones with a number printed on them with a matching number printed on a removable tab to give the customer. Figure 1 shows the custom-made job envelopes which are the most expensive. We had these specially made for us a number of years ago as you can tell by the high number. The envelopes are white which we like better than the usual yellow coin envelopes. There was no extra die charge in making these since we accepted a stock size. The numbered tab (the one given to the customer) is quite small since it is made from only the top half of the tab. This seems to work satisfactorily and is less costly than a special hand-designed envelope. We use this envelope for all jobs including watch repairs and jewelry repairs.

Figure 2 shows our envelope filled out after taking in a Seiko from John Jones. One of the important features of this envelope is having both the residence and business

Figure 1

Figure 2

Figure 3

phone numbers and a box on the left to check which number we should use if we need to call him.

Figure 3 shows that we gave the customer the numbered stub.

Next we record this job in our job take-in book as shown in Figure 4. Note: This job came in July 3rd. When we return it to the customer we will place the "out" date in that column. Also, if we return this job without receiving the customer's stub, we will mark an "X" in the last column and, in some cases, ask the customer to sign to show they have received their item without turning in their stub.

We checked our crystal stock and found it was necessary to order the crystal, so we wrote it in our "phone parts on order" book. See Figure 5. We listed this crystal in column 1 as we will order it from B.X. Watch Material Supply Co. (This and other company names and abbreviations shown here are fictitious and are used here just for the purpose of this article.) This fictitious list, Figure 6, is shown here for a guide only and to show how we list them in sort of an order based on types of items. For instance, numbers 1, 2, and 3 are the most used material houses; 4, 5, and 6 are material and jewelry suppliers; 7, 8, and 9 are watch companies; 10, 11, and 12 are diamond and gold jewelry companies; and 13, 14, 15, and 16 are findings, etc. Column 17 is used to write in any other miscellaneous company that we might want to use.

We have all phone numbers listed after each

(Please turn to page 20)

Figure 4

1992 JOB TAKE IN BOOK NOTE: X AFTER "DATE RETURN"=WE RETURNED JOB TO CUSTOMER WITHOUT "STUB".

JOB NO.	NAME	PHONE	ITEM	WORK	"IN" DATE	"OUT"	X
28219	JONES, JOHN	586-1393	W.M. SEIKO-A-BD	CRY.	7-3-92		
28220							
28221							

Figure 5

CO. AND DATE — PAGE NUMBER 42

	CUSTOMER AND NUMBER	ITEMS	1 BXM	2 PCS	3 MS	4 BJS	5 CD	6 ABJ	7 9XW	8 BEL	9 GRW	10 CMD	11 KE	12 ABG	13 FS	14 BNC	15 JG	16 HJ	17 MISC.	DATE ON ORDER	DATE REC'D
1	JOHN JONES 28219	CRY.-SEIKO 300T20AN	7/3																	7/3	
2																					
3																					

Figure 6

FICTITIOUS LIST OF COMPANIES

(Notice, we have used the first two or three letters of these on our "parts on order form". See Figure VIII)

			PHONE	ACCT. NUMBER
1.	BXW	B X WATCH MATERIAL CO.	______	______
2.	PCS	P C SMITH CO	______	______
3.	MSC	MARTIN SELL CO	______	______
4	ETC....			

CLOCKS Inside & Out!

Gerald G. Jaeger, CMW, CMEW, FAWI

PART IV

Repairing the Jaeger-LeCoultre Atmos Clock

Caliber 540

POISING THE PALLET FORK AND ARBOR

Refer to the Jaeger-LeCoultre Repair Notes for Caliber 528, Figure 54. The pallet is best cleaned with a mild detergent and soft brush. Rinse with clear warm water and then with benzine or similar solvent. I would not subject the pallets to the rigors of an ultrasonic cleaner. Even though the jewels are well set, extreme care should be observed so as not to disturb their position.

Affix the mainplate (Figure 55, Cal. 540, #4001) to the Jaeger Platform, pillars up. Secure the mainplate with the lower fixing screw only. Fit the center wheel in the mainplate, wheel down. Lay the 3/4 Platine on the pillars. You will note the second wheel and minute wheel are fixed to the plate. Do not secure the 3/4 Platine bridge. Slide the fork into position from the top of the movement. The fork horns and guard finger will point down. The upper portion of the 3/4 Platine will have to be lifted a bit to provide clearance. Secure the mainplate to the Jaeger Platform with the other fixing screw. Slide the barrel and arbor in place through the side of the movement. Slide the first wheel in, pinion up, from the side of the movement. Place the four screws (Figure 56, Cal. 540, #4222) in the pillar holes. Upright the wheels guiding all pivots gently into their respective jewels. Secure the 3/4 Platine bridge. Check all wheels and arbors for freedom. Apply a slight pressure to the barrel. Allow the fork to move back and forth slowly by restricting its flutter with your fingers. You can observe the drops, locks, and slide through a relief in the Jaeger Platform.

This method of assembly may seem cumbersome, but it is necessary as we have fixed the second wheel to the 3/4 Platine with the minute wheel. Assembling the wheels and plates and later staking on the minute wheel would have been simpler, but we would risk breaking the second wheel jewel if we staked the minute wheel after assembly.

FIXING THE BACK SPRING

The back spring (Figure 57, Cal. 540, #4157) and spring guide (Figure 58, Cal. 540, #4158) are fixed using tool #2 pictured in the Jaeger-LeCoultre Repair Notes, Caliber 528, Figure 59. You were to have taken note of the loose number of links hanging from the spring guide in disassembly. The pulley chain should be reattached in the same link.

With the chain hanging free from the chain pulley, place the pulley on the arbor. The arbor extends from the back of the frame. Thread the chain over the top of the pulley of the back frame. Exercise care to avoid any twists in the chain. You will note both pulleys are grooved to sustain the level of the chain. The chain pulley will now have to be supplied with tension. Grasp the spring end with stout tweezers and wrap it around the pulley a minimum of four turns. Hook it into the slot in the stud which extends from the back frame. Compress the back spring (Figure 57) and spring guide (Figure 58) completely. If the chain loses any tension, give the spring one more wrap around the pulley.

MOUNTING THE MOVEMENT

Attach the movement to the frame. Take precaution not to foul the fork. Be sure to include the lock washers. Recheck the distance of the spring guide from the back frame. It should be 45 to 48 mm. Do not put any wind on the clock. Unlock the balance and cause the balance to come to complete rest. Recheck the roller to be sure it is in beat. See the July '92 issue for "Putting in Beat."

Put a mark on the teeth of the lower ratchet wheel (Figure 60, Cal. 540, #4015). This is a reference point and you will refer to it when counting the turns of the mainspring arbor. Wind the clock a maximum of three turns. If you wind over three turns on a properly cleaned and adjusted clock, it will probably cause rebanking of the balance. Four to five turns is likely the maximum wind that you will attain on this clock.

(Please turn to page 21)

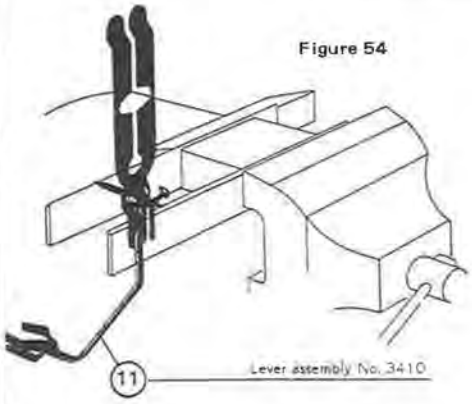


Figure 54

4001
Figure 55

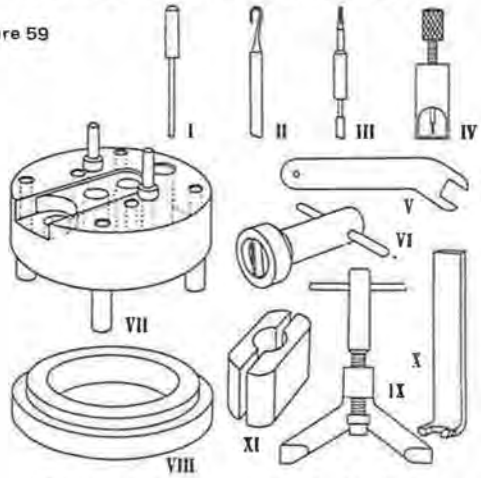
4222
Figure 56

4157
Figure 57

4158
Figure 58

TOOLS FOR THE REPAIRER

Figure 59



I Tube for threading the suspension wire through the upper bridge when assembling the balance.

II Tool for passing the chain through the 52 mm coil spring.

III Tool for threading the suspension wire through the balance stem.

IV Tool for removing the minute hand.

V Key for undoing the motor knobs.

VI Key for undoing the cylindrical balance securing nut.

VII Stand for clock movement.

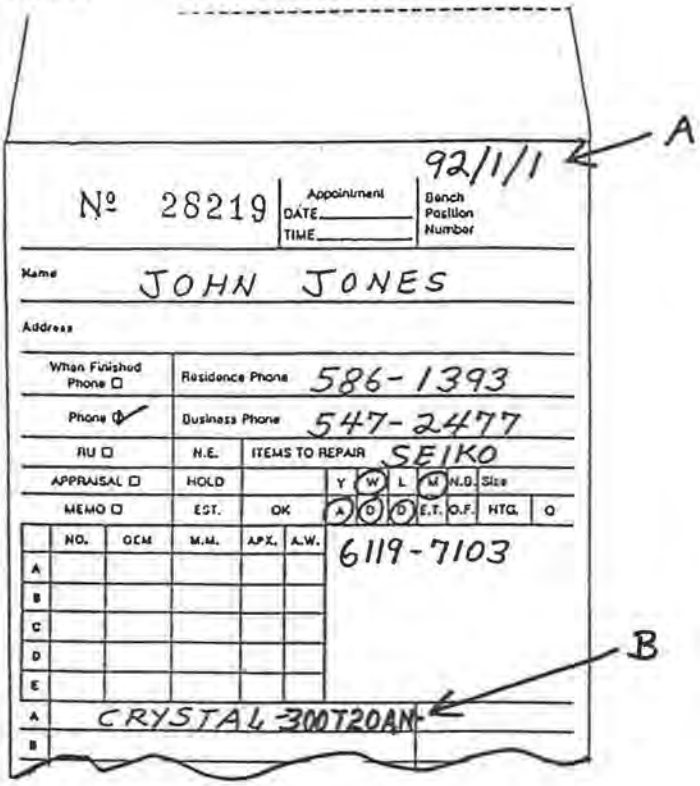
VIII Ring support for balance during assembly.

IX Tool for correcting balance poise.

X Tool for restraining notched regulator collar during resetting of index to zero.

XI Tool for holding balance stem in vice.

Figure 7



of these names; however, they are not shown here in this fictitious list. All of the most often used phone numbers are placed on our telephone on automatic dial. I forgot to mention that most companies will want our account number they have issued to us, so we keep these numbers posted on this list also.

Now, let's see . . . our "parts on order" book is still open, so we need to write the page number (92), line number (1), and in this case line number (1) on the job envelope. See Figure 7A. Also, we will write the crystal number 300T200AN (shown at B in Figure 7) on the job envelope and then place this envelope (with the watch inside) in the parts on order box. Now we can forget about this job until the crystal comes in. When it does arrive, we mark the date in the date received column. See Figure 8A.

This watch is then removed from the "parts on order" box and the crystal put with it so it can be fitted. When we finish this job, this watch is recorded. Most stores use a record book to record the watch repairs and later they also make up a sales slip. We eliminate this record book and just use triple copy sales book pads. We put our AWI identification number, followed by our own number, and then complete this triple form as shown in Figure 9. We remove the top two copies and leave one in the book for our record. The top two copies are both placed into the job envelope with the customer's watch. Now, when the customer picks up this watch, we mark paid and indicate the

Figure 8

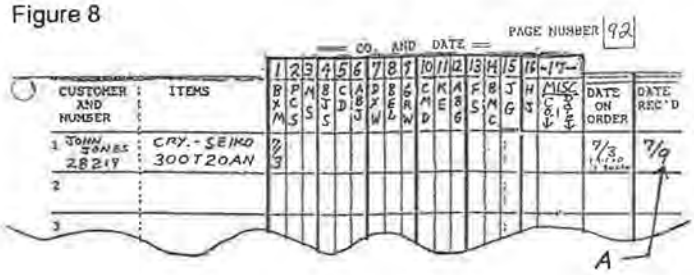
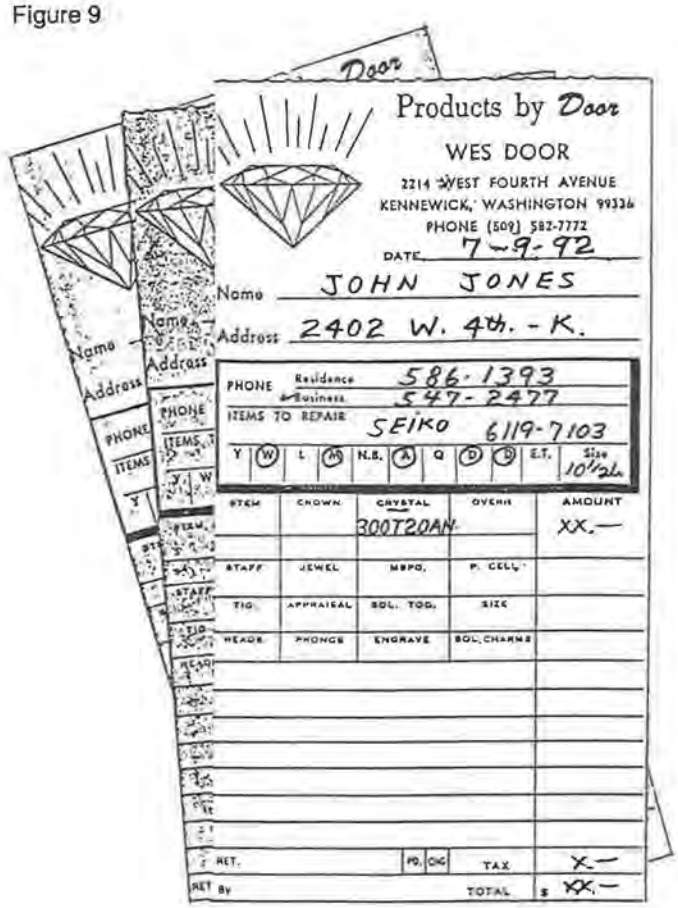


Figure 9



date returned on both copies. We give the customer one copy and place the other copy in a box by the cash register; later this copy is filed under "J" for Jones. We now have a double record by name and by date, and without any additional work.

We believe in as little paperwork as possible, but there is a certain amount that is necessary. We also believe in making up forms like those shown in this article to speed up our work and thereby giving us more time to do our work. We should use whatever works the best for us. I hope this article will help those who have not developed their own system yet. Please feel free to copy any ideas or forms shown here. ❑

(Continued from page 19)

ADJUSTING THE PALLET AND FORK

You will note that the 540 is a much more rigid fork than used in Caliber 528. If you have exercised proper care in handling of the pallet and fork, very little adjustment should be needed. You will note the fork impulses the roller somewhat lower than on Caliber 528. If the escapement needs adjustment, refer to Jaeger-LeCoultre Repair Notes Caliber No. 528, paragraphs 38 through 44. All other troubleshooting will be aided by reference to Repair Notes, Caliber 528, in the proper area. The two clocks are similar enough that this technical guide will be of great assistance to you.

TIMING THE CLOCK

Assuming the clock has a balance amplitude of between 1-1/3 and 1-2/3 turns, we are ready for regulation.

Attach the dial pan and the minute hand. Align the minute hand to exactly one minute before the 12 o'clock position. You will note the hand moves slowly during the impulse phase of the escapement action. When the escape wheel drops, the hand will jump. When the hand jumps to the 12 o'clock position, start a 1/100 second stopwatch or chronograph. When the minute hand snaps to the 15-minute position on the dial pan, stop the timer. If you are within one second in 15 minutes, you can regulate using the manual regulator. Whenever you change the suspension wire, you will probably have to change the mass of the balance. Refer to tool #10 in the Jaeger-LeCoultre Repair Notes, Caliber 528 (Figure 59). Also refer to the 15-minute Time Check, Figure 61.

FINAL ASSEMBLY

Replace the dial and hour hand. Replace the motor and place the clock on a timing shelf. Regulate daily till the clock is within two seconds per day. Recase the clock, return it to the customer, collect your fee, and enjoy.

4015
Figure 60

Figure 61

15 MINUTE TIME CHECK
EACH GRADUATION OF REGULATOR = 10 SEC/DAY
ONE FULL SWEEP OF REGULATOR = 90 SEC/DAY = 1.5 MIN/DAY

1 SEC/ERROR = 4 SEC/HR = 96 SEC/DAY = 1.6 MIN/DAY
2 SEC/ERROR = 8 SEC/HR = 192 SEC/DAY = 3.2 MIN/DAY
3 SEC/ERROR = 12 SEC/HR = 288 SEC/DAY = 4.8 MIN/DAY
4 SEC/ERROR = 16 SEC/HR = 384 SEC/DAY = 6.4 MIN/DAY
5 SEC/ERROR = 20 SEC/HR = 480 SEC/DAY = 8.0 MIN/DAY
6 SEC/ERROR = 24 SEC/HR = 576 SEC/DAY = 9.6 MIN/DAY
7 SEC/ERROR = 28 SEC/HR = 672 SEC/DAY = 11.2 MIN/DAY
8 SEC/ERROR = 32 SEC/HR = 768 SEC/DAY = 12.8 MIN/DAY
9 SEC/ERROR = 36 SEC/HR = 864 SEC/DAY = 14.4 MIN/DAY

WEIGHTS

1MM THICKNESS = 7 SEC/15 MIN = 28 SEC/HR = 11.2 MIN/DAY
2MM THICKNESS = 14 SEC/15 MIN = 56 SEC/HR = 22.4 MIN/DAY
3MM THICKNESS = 21 SEC/15 MIN = 84 SEC/HR = 33.6 MIN/DAY
4MM THICKNESS = 28 SEC/15 MIN = 112 SEC/HR = 44.8 MIN/DAY
5MM THICKNESS = 35 SEC/15 MIN = 140 SEC/HR = 56.0 MIN/DAY

STUDS

1MM THICKNESS = 2 SEC/15 MIN = 8 SEC/HR = 3.2 MIN/DAY
2MM THICKNESS = 4 SEC/15 MIN = 16 SEC/HR = 6.4 MIN/DAY
3MM THICKNESS = 6 SEC/15 MIN = 24 SEC/HR = 9.6 MIN/DAY
4MM THICKNESS = 8 SEC/15 MIN = 32 SEC/HR = 12.8 MIN/DAY
5MM THICKNESS = 10 SEC/15 MIN = 40 SEC/HR - 16.0 MIN/DAY

Ask Huck

CLOCKMAKING BITS

By J.M. Huckabee
CMC, FBHI

About . . .

AUTOMOBILE AND AIRCRAFT CLOCKS

and

RELATIVE MERITS OF REGULATOR ESCAPEMENTS

Q. What problems are encountered in repairing aircraft clocks? Is this something a clockmaker should venture into?

A. I currently am not repairing aircraft clocks because they have not appeared in my shop. In the 50s and 60s I did a steady stream of this work. Most parts were available, either new or from salvage sources, and it was good, clean work.

Most of the clocks used escapements not too different in size from a large pocket watch, were well jeweled, in good, tight cases, and rather easy to repair. Most problems resulted from exposure to extremes of high or low temperature, or being in disuse for sustained periods of time. The main section of the gear train is larger than a large watch which requires larger screwdrivers and tweezers. If your skills also encompass watchmaking, you will be able to handle this work; otherwise, I would leave this to our watchmaker friends.

A few electric-winding aircraft clocks in the 1970s were similar to automobile clocks of the same era, not the fine specimens of earlier years.

Q. Is there a future in repair of automotive clocks? Is this a job for the clockmaker or should this be a watchmaker's job?

A. With the advent of quartz technology, the automotive clock repair has just about ceased. Every clock I've observed in new cars is of digital technology which is all solid-state electronics.

However, restoration of antique and classic automobiles is now in vogue. This means that bringing an electric wind mechanical clock back to life can be profitable.

Clocks in the post WWII era were mostly battery powered or battery wound. In that era I did lots of auto clockwork. Many of these units had an electrically powered balance wheel oscillator, similar to our recent era pre-quartz battery clocks. I found exposure to hot sun took its toll on lubricants; wrecks and chuckholes got the balance pivots! Parts were never readily available and the balance staff had to be handmade.

Most of those staffs were a simple, straight arbor with cylindrical pivots. The broken pivot would lodge inside the two-jeweled pivot screw. A magnetized sewing needle will retrieve the broken pivot. I made staffs from sewing needles. Place a suitable needle in the lathe, run slow, and grind the pivot to shape with a Dremel Mototool. A rubber-bonded abrasive wheel about a quarter inch in diameter does the trick. It only takes a minute or so per pivot. I used wheels with the "Bright Boy" trade name.

Most of those automotive clocks exhibited a quality similar to an inexpensive travel clock of the same era.

If auto clocks meet your fancy, give them a try. The decision is easily reversed.

Q. Please discuss the relative merits of the recoil, dead beat, and pin wheel escapements for a large clock. I plan to build a regulator clock and am undecided about the escapement. What would you advise?

A. By a large clock, I imagine a 60-beat movement. Also, I imagine you will have a second hand in addition to hours and minutes, weight drive, and maintaining power. These are the basics for a good, reliable, wall-hanging regulator which is relatively simple to build by hand.

All three escapements will do a good job, with the final accuracy being dependent on the quality of your pendulum. However, construction problems differ widely.

A good pin wheel is very difficult to make in near-perfect form. On the other hand, a recoil escape wheel is one of the easier to construct in good quality; and further, the deadbeat wheel is not a difficult one, just a little more delicate than the recoil wheel.

On our escapement anchor: I think the pin wheel anchor is most difficult to construct. Personally, I believe the deadbeat anchor is easier to construct than the recoil example. This is because it is easier to set up, cut, and measure the impulse faces. On the other hand, the strap-type recoil anchor is very easy to make.

I think you would do well to construct a deadbeat escapement with a wheel diameter of about 1.5 inches. This approximates what is used in most fine 60-beat regulator clocks.

We probably have more and better technical information on the deadbeat escapement than all others combined. I'm speaking of construction detail, not just generalized discussion. By example: Henry Fried's escapement discussion in *The Horolovar 400-Day Clock Repair Guide*, 6th Edition, is outstanding. Another example is in *The Modern Clock* by Ward Goodrich. Our AWI *How to Build a Regulator Clock* deals with geometric scale drawings, physical dimensions, construction materials, and testing fixtures. Collectively, this material leaves little to be desired in understanding and construction of a good escapement.

While on the regulator subject, let's discuss some other items. Maintaining power is probably easier to achieve with dual weight drive than any other form. This will simplify many design and construction problems.

A sweep second hand simplifies dial construction, but greatly complicates movement construction by the requirement of tri-axial hand shafts. And further, the weight and inertia of a sweep second hand is a burden that no good escapement should carry.

My conclusion is that any of the three escapements should produce a rate within a minute per month with a good, well-made wood stick pendulum. With a compensated rod, this could easily be within 5-10 seconds per month.

I'm sure you will enjoy the thrill of your handiwork becoming a fine clock! ❑

If you have a question, please write: "Ask Huck," c/o Horological Times, P.O. Box 11011, Cincinnati, OH 45211.

Book Review

THIS OLD CLOCK by David S. Goodman. 8-1/2" x 11-1/2", 51 pages, looseleaf, soft covers, 63 drawings. Copies available from the author @ $10.00.

The alternate title to this manual is *Class Notes in Clock Repair*. It is an illustrated summary of lectures and demonstrations intended for review of work done in the class or shop where he teaches basic and advanced clockwork on Long Island in New York. His shop classes have been popular and successful, and his lectures to the Metropolitan chapters of the NAWCC are always well attended.

While meant to aid Goodman's at-hand instruction, the manual is nicely put together with easy-to-read text and understandable drawings. It should find a place at any watch- or clockmaker's bench, or beginner's library.

Henry B. Fried

FORGOTTEN ANGEL -- The Story of Lydia Moss Bradley by Allen A. Upton. 5-1/2" x 8-1/2", soft covers, 84 pages, 22 plates. Pub. 1988 and copyrighted by Allen A. Upton. Available through Bradley University Bookstore, 830 N. Elmwood Ave., Peoria, IL 61625 @ $6.74 (postage included).

Many thousands of students have benefited from the training in watchmaking skills and other related efficiencies acquired at the Bradley University/School of Horology. Established jewelers of today would be interested to know of the formation of the School of Horology. Dr. Upton has written about the woman of strength and purpose who made this happen. He states:

"This book is dedicated to the thousands of Bradley alumni who probably never knew the story of the woman who founded their alma mater."

The title is apt; for while the University is well known and respected, few are aware of the foundation of the University and the foresight of Lydia Moss Bradley. This easily held book relates the biography in a conversational tone. Lydia Moss Bradley is finally described as a "plain, quiet, little woman who suffered overwhelming tragedy, whose life spanned almost the entire 19th century, and who, in the end, created a lasting memorial that took nearly a half century to accomplish."

Her early English ancestors date to 1642. They settled in Virginia and in time and through generations they acquired land, served in the American Revolutionary forces, and migrated west into the frontier.

Lydia was born in 1816. Her father, Zeally Moss, freed his slaves and moved from Kentucky to Vevay, Indiana. He had amassed considerable capital in land transactions, and generously gave a parcel of land to each of his six children. As a young woman, Lydia swapped a horse her father had given her for some timberland, sold the timber, and bought more land.

After her marriage to Tobias Bradley, the couple moved to Peoria and purchased a large tract of land that included the site of the Bradley University campus today. Lydia gave birth to six children, none of whom survived childhood. They succumbed to illnesses at less than a year, barely two years, at four or five years. When Laura was seven, she was the only remaining child. She died at 14 years when her mother, Lydia, was 48 years old.

Tobias was president of the First National Bank and of the mercantile Library Association, and past president of the Peoria and Rock Island Railway when he died at the age of 56. Lydia, a widow with land and business interests, became a member of the Board of Directors of the First National Bank in Peoria. She was the first woman member in Illinois and perhaps in the United States, a distinction she held for 25 of the next 34 years that she served as director.

The couple had supported various philanthropies and had discussed the possibility of establishing an orphanage in memory of their deceased children. They (or later Mrs. Bradley) gave assistance to a Children's Home, the Universalist Church, the Bradley Home for Aged Women, Bradley Hospital (now St. Francis Hospital), and Laura Bradley Park.

Lydia's goal was to establish a school that would teach "... its students the means of living an independent, industrious, and useful life by the aid of a practical knowledge of the useful arts and sciences."

In her search, she learned of the Parsons Horological School at LaPorte, Indiana. She purchased interest in the school, and arranged for students and equipment to be moved to the Peoria Watch Company factory. The school taught every branch of the horological art, including designing, engraving, and jewelry work, and it was equipped with the latest and most improved machinery and tools.

In 1897, Horology Hall was built, the only structure in the United States at that time that had been erected solely for use as a horological school. Parsons Horological School became Bradley Polytechnic Institute, and was dedicated on October 8, 1897, when Lydia was 81 years old. Horology Hall and Bradley Hall were the first buildings. Forty years later the Institute had expanded into Bradley University.

Gem City College of Quincy, Illinois purchased the Bradley School of Horology in 1961 and built it into a department that, at its height, had 15 instructors and 215 students from many states and some foreign countries. Today the study of horology continues as a career choice at Gem City College. As in the Peoria school, every branch of the horological art is taught.

Mrs. Bradley's will specified gifts of land and funds, and created an endowment for Bradley University. She at first intended that this goal would be accomplished after her death, but it must have been a

complete satisfaction to see the University well established in her later years. She is quoted: "I am proud of the Polytechnic Institute. It is fully up to my expectations. My idea is to teach everybody to work, not only with his or her head, but with hands. Our school teaches useful and practical knowledge." Lydia Moss Bradley lived to be 91 years of age.

This book will provide fascinating reading for graduates of the School of Horology when it was located in Peoria, and they may be content to know that the School of Horology continues to develop watchmakers and jewelers in Quincy, Illinois.

Frieda V. Marshall

❑

Pickle Barrel

Marshall F. Richmond, CMW

JEWELRY CRAFTING AND REPAIR
Diamond and Stone Setting
Part II

Last month a general outline was discussed for a series of articles covering most stones and settings. This article will start with probably the easiest and most popular type of setting which is the prong setting.

We will start with the four- and six-prong tiffany type setting. These are used extensively for finger rings, earrings, and pendants. In Figure 1, item 1 shows a four-prong pierced post earring setting, 2 is a six-prong, and 3 is a buttercup six-prong earring setting. A four-prong solitaire finger ring is shown in 4, and 8 shows a six-prong solitaire finger ring. Numbers 5, 6, and 7 show the same settings as 1, 2, and 3, except they have double pendant loops attached to the setting for use as a necklace. The earrings and necklace mountings have to be held differently for setting the stones.

In Figure 2, 1 is a jewelers saw and two cylinders containing number 4/0 and 6/0 saw blades; 2 is a pin vise; 3 is a hand chuck; and 4 shows two sizes of setting burs.

In Figure 3, 1 is a closed miracle or illusion prong type head, and 2 is a closed setting miracle or illusion prong type for a pinched shank. These will usually be assembled into a ring by installing it in a shank before setting; 3 is an open prong setting for a marquise cut stone; 4 is an open prong setting for a pear-shaped stone; 5 is for a heart-shaped stone with the angle prong on the end to cover the point of the heart; and 6 is also for a heart-shaped stone with only four prongs (which leaves the point of the heart uncovered).

In Figure 4, 1 is a ring clamp for holding rings while setting the stone(s); 2 and 3 show stone setting pliers; 4 shows chain nose pliers; and 5 shows side cutting pliers.

Some of the types of prong settings have been shown as well as some tools that are necessary, so now let's discuss the actual setting of the stones starting with the simplest and easiest one to set. This will be the four-prong open tiffany type setting.

A solitaire ring is the easiest to hold and set a stone in, so we will first clamp the shank of the ring in a ring clamp leaving the setting protrude from the top. As the ring clamp (Figure 4-1) can have the ring clamped from either end, having a flat surface on one end and a rounded surface on the other end which permits rings to be clamped more substantially in this end, so for stone setting I recommend using this rounded end.

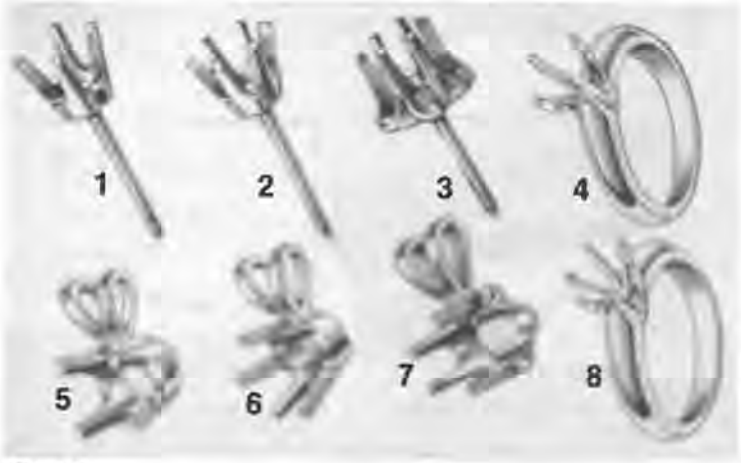


Figure 1

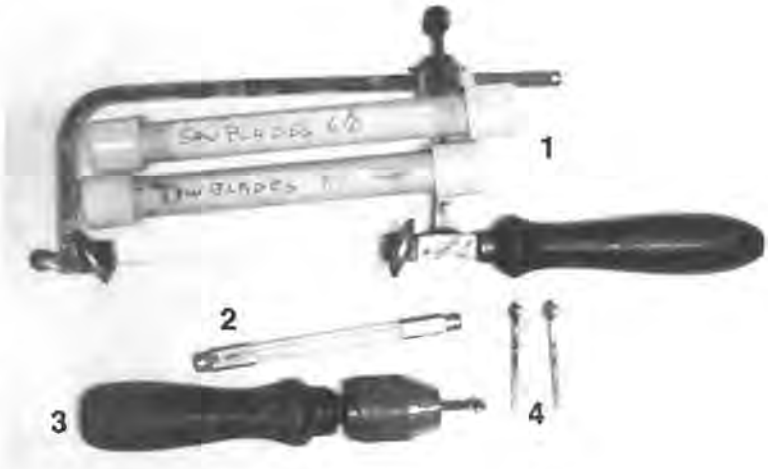


Figure 2

Figure 3

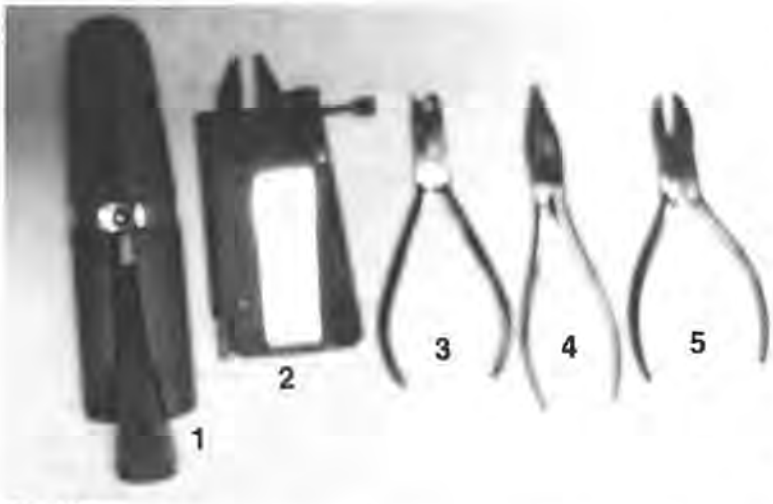


Figure 4

In Figure 2, 3 and 4 show a hand chuck with bur chucked up and two burs of different sizes which can be used to cut the seat. A flex shaft tool can also be used to propel the bur in cutting the seat. (See "Pickle Barrel" in the December '91 issue of *Horological Times* for an article on the flex shaft tool and accessories.) For four-prong settings, or in fact, *any* open setting, it is probably better to use the rotating tool. This rotates the bur faster, and with a light touch it is less apt to catch and bend a prong or prongs.

In Figure 5, 1 shows the bur in the setting and how the seat is cut. To find the correct size bur, I lay the stone top table down, and with a vernier caliper measure the diameter of the stone. I have a set of setting burs (30 burs) starting at 1 mm, the largest being 10 mm. This selection will give a bur to fit practically any stone in this range. When one bur is too small and the next one is too large, it is probably best to use the smaller one. This is because after the seat is cut, the stone can be pushed in snugly; the prongs will give, and with a snug fit it is easier to bend the tips over the edge of the stone. In picking a setting for a stone in melee sizes from .01 to .07 carat, they are available in .01 carat graduations, and most all settings are listed in carat sizes. From .07 they increase to .10, .12, .15, .20, .25, .33, .40, .50, .75, and 1 carat. Note that from .07 they skip a couple of numbers, and the larger the settings get, they will skip more numbers in between (for instance, .15 will accommodate a .13 to .18 carat stone). The reason for this is that the prongs can be bent either in or out to accommodate the size stone in the range of the setting; the *larger* the setting, the longer the prongs, so they have a wider range of expansion or contraction without getting the shape of the setting out of proportion.

To expand the prongs, the correct size bur can be pushed down into the setting without rotating it. For contracting the setting for a smaller carat size, the prongs can be bent inward with pliers to somewhat smaller than the size needed. Then, the correct bur size can be pushed in, bringing the size out to the size needed. The depth of the seat can vary by just cutting it deep enough to let the prongs bend over the edge of the stone or cut deeper so the prongs can be bent even as far over the stone as the top table.

Different circumstances will require different depthing. For instance, if replacing a setting where one or more other settings are involved, the depth should match the depth in the other settings. Some customers want the stones set deeper or left as high as possible. One advantage of leaving the stone set as shallow as possible is that later on when the tips get worn the stone can be removed, the tops of the prongs dressed off, and the stone can be reset deeper without repronging, retipping, or replacing the setting. Whenever there is enough prong length to allow resetting the stone lower, this can be done at a much lower cost than the other alternatives if it meets with the approval of the customer.

Figure 5-1 (upper) shows a bur in the setting with the seat cut from a side view, and the bottom shows the prongs looking from the top down on the setting. After the seat is cut, the stone can be placed in the setting as in Figure 5-2 (top) which shows the prongs protruding above the girdle of the stone. Since the ring is still in the ring clamp, it can be raised in the clamp to allow one jaw of the stone setting pliers (Figure 4, 2 and 3) to go under the head. For handling the stones, a pair of diamond tweezers

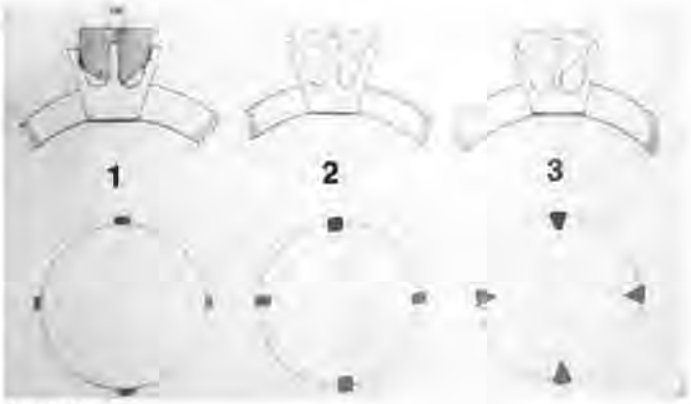


Figure 5

with their rough jaws can hold the stones; or, a pair of rusty tweezers in which the inside of the tips are rough enough to keep the stones from flipping are good to use.

Another way of handling them in setting is with the use of beeswax, which is hard at room or cool temperatures, but can be softened by working with the fingers. The body heat from the fingers will bring the temperature of the wax as much as 20 degrees higher than room temperature. This makes it soft and pliable, and gives it enough adhesive value to pick up the stones, yet releases the stones when put in their seat. A small piece rolled into a tubular shape and pointed on the end with the fingers makes a very good piece for handling small stones without flipping them. With the stone in the seat before using setting pliers, the prongs can be slightly tilted over the edge of the stone using chain nose pliers (Figure 4, #4), holding them vertically over two prongs opposite each other, and squeezing. With a four-prong setting, turn the ring 1/2 turn, and squeeze the other two. In the case of six-prong settings, there are three pairs of prongs always with one prong directly opposite of the other that can be squeezed the same as with the four-prong setting. The setting pliers can be used to tighten the prongs over the girdle of the stone by placing one jaw under the setting. In Figure 4, #2, these pliers can be set so as not to go too tight with the jaw limiting screw; however, the other type in Figure 4, #3, has one jaw longer than the other, and rely on the craftsman's feel to get the proper tightness of the prong over the stone.

Figure 5, #2 (top) shows the stone in the seat of a four-prong setting before any bending over the girdle of the stone has started. Figure 5, #2 (bottom) shows a top view of the prongs bent over the girdle of the stone prior to shaping, and Figure 5, #3 (bottom) shows the prongs after they are shaped.

When the stone is in place and the prongs are tight over the edge of the stone, if they come too far over the edge they need to be cut off. I know of no given rule to tell how far over the stone the prongs should extend, because different size stones have different requirements. However, Figure 5, #3 (bottom) shows a good proportion. You should learn to eyeball it and see the proper proportion. This is

much quicker than trying to use measuring tools and markers to get the proper overlap for both strength and appearance. If they need shortening, use the jewelers saw with a 6/0 blade. Figure 2, #1 shows a jewelers saw. Saw them off to look like Figure 5, #2 (bottom), which is proportionate for the size stone shown. Then finish by filing off the square corners with a barette fine-cut needle file. Or use a flat fine-cut needle file with one edge smooth for facing the stone.

Figure 5, #3 (bottom) shows the prongs in a triangular shape which is the old way prongs were usually finished. I have found that by making this shape half round, they are less apt to catch on clothing. They can be finished with a cup bur in the flex shaft tool using the bur a little larger than the width of the prong, and only finishing the end that is toward the center of the stone by tilting the bur. The setting is now ready to polish using tripoli on a bristle brush with the polishing motor, followed by rouge on a cotton buff wheel. There must be some variations in setting procedures with stones of different hardnesses. A diamond, being the hardest, needs to be shown no special care for damage. However, softer stones such as cubic zirconia, genuine emerald, amethyst, and some of the softer quartz stones can be scratched, or the girdle chipped with rough treatment, so be careful in handling these. Most synthetics are hard enough that they can be handled without special care.

A problem that can easily be encountered in setting prong type open settings is this one. When tightening the prong tips snugly to the stone with setting pliers, pressure is sometimes not perfect from a vertical position. It can cause a prong to bend sideways, which puts it completely out of line. This does not require the removal and resetting of the stone, since the prong can be straightened with a pair of chain nose pliers by gripping it below the stone and bending it sideways until straight and in line with the other prongs. In getting bent, usually it will also get bent some inward which when bent back letting the seat of the prong follow the girdle of the stone to its original position will make the seat tight against the girdle. No retightening of the stone is necessary unless when examining it under magnification you find the prong is not tight against the stone.

In writing this article, I have tried to go into much more detail, pointing out trouble possibilities and how to overcome them. All of the procedures mentioned here are those that have worked for me. If you find better ways to set these stones, use them. Never stop trying to find and develop better ways of doing any job that you have. This article has been limited to the one type prong setting. In the next several articles, all types of stone setting which I am familiar with will also be explained in as much detail as I can give from my experience. We'll continue next month with a discussion of open prong settings. ❑

Old Watches

Charles Cleves

Current Prices

Here are some of the pre-auction prices from the May 19th auction at Southeby's in Geneve, Switzerland.

The quality of pocket watches seems to be higher than usual. More dealers are sending their better watches to the auctions today than in the past. There is also a noticeable difference in the quality of watches being brought to the NAWCC shows. Just three years ago there were four times as many high-grade wristwatches at any given show. The pocket watches seem to be about the same at the shows.

Figure 1 is a gold open face perpetual calendar watch with moonphase by Patek Philippe. The serial number is 930546, and it was made in 1945. This watch has four subsidiary dials. The dials indicate the seconds and moonphase, day of the week, date and month calibrated for leap year. It has an 18j movement adjusted to heat, cold, isochronism, and 5 positions. The pre-auction estimate was SF 25,000-30,000. (SF stands for Swiss francs. To convert Swiss francs to dollars, multiply by .707. Example: SF 1000 is equal to 1000 x .707, or $707.00.)

Figure 2 is a gold enamel and diamond set ring watch, circa 1800. In the center of the ring is an exposed balance set with rose cut diamonds. The back of the watch has a sliding panel to conceal the winding and the setting holes. The pre-auction estimate was SF 4500-5000.

Figure 3 is a rare gold hunting case one-minute tourbillon by Charles Frodsham, London. There is an up-down mainspring power indicator on the dial. This watch was accompanied with a KEW certificate with a rating mark of 89.6. These high-grade tourbillon watches are very rare and very expensive. The pre-auction estimate was SF 110,000-130,000.

Figure 4 is a rare platinum, cushion-shaped, open face, minute repeating perpetual calendar moonphase watch by Audemars Piguet. The dial is marked 'Gubelin' because it was the retail jeweler who sold the watch. It has a 29j, 7-adjustment movement, and was made in 1923. This watch was pre-auction estimated at SF 100,000-120,000.

Figure 5 is a small gold hunting case one-minute tourbillon movement with triple gold bridges and a pivoted detent chronometer escapement. This watch was made by Girard Perregaux around 1900. This triple bridge movement is typical of most of their watches. This is the fourth watch of this type to surface that we know of. It was pre-auction estimated at SF 125,000-150,000.

Figure 6 is an extremely rare gold open face minute repeating watch with sunrise, sunset, equation of time, moonphases, and perpetual calendar. Figure 6A is the same watch with the dial removed. It was made for the Maharaja of Patiala in 1910 by Golay Fils & Stahl of

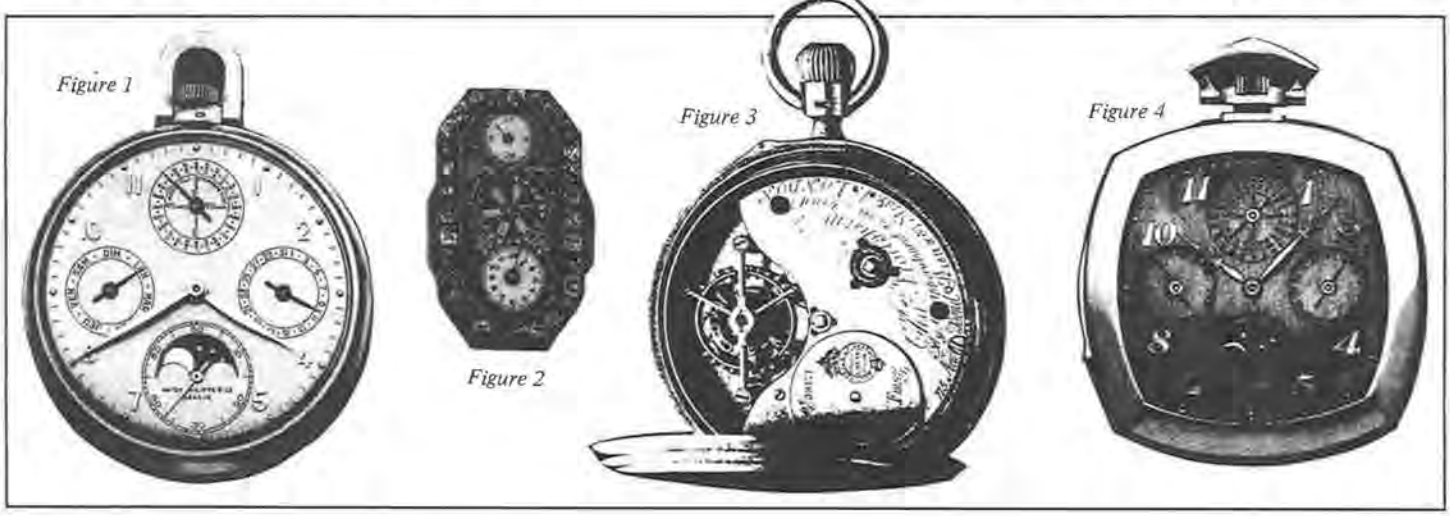


Figure 1

Figure 2

Figure 3

Figure 4

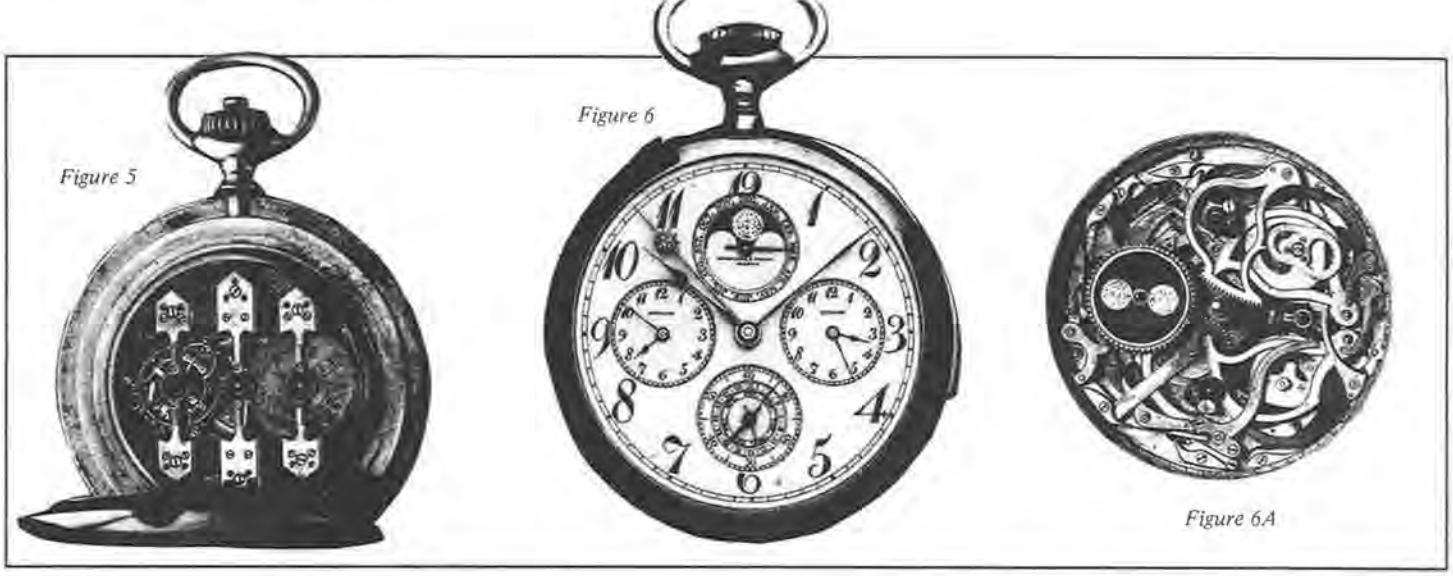


Figure 5

Figure 6

Figure 6A

Geneve. This watch was special ordered by the Maharaja in Paris. By this watch you can tell he had excellent taste in the finer things in life. He was a great patron of Cartier in Paris. At one time, he had Cartier remount his most valuable diamonds, including his 234.69 ct. Debeers diamond. He also collected Rolls Royce cars, and at one time he owned 38 of them.

One of the more unusual features of this watch is the sunrise/sunset functions. Like the Graves and the Packard watches, this had to be set up for a specific latitude. Presently, the watch is set for latitude 30.23 North, which is Patiala in Punjab of Northern India. The Graves watch was set for latitude 40.41 North (New York), and the two Packard watches were set for 42.20 North (Warren, Ohio). The sunrise/sunset mechanism was made by Jean Piquet of Brassus. Different functions on these complicated watches were farmed out to different specialists. The ebauche was made by Leon Aubert of Brassus. The perpetual calendar mechanism was by Paul August Golay of Vallee de Joux. Some of these genuine artists in their field also worked on the Graves and Packard watches made by Patek Philippe.

It is very difficult to estimate a watch of this caliber. Perhaps that is why there was no pre-auction estimate on this particular watch. As of this time, I have not yet received the final prices realized on these watches, but I will include them in my next article. There were several other perpetual calendar pocket watches in this auction. The wristwatches included a Patek Philippe minute repeating automatic made in 1989 for the 150th Anniversary of Patek Philippe. This was a 39j, gold rotor movement with two gongs. The pre-auction estimate was SF 250,000-300,000.

Subscribing to auction houses such as Southeby's gives you a good indicator of the current prices. It costs approximately $180 a year to subscribe to the clock and watch auctions at Southeby's. The other large auction houses have similar fees. With these catalogs, you can build a library of information for years to come. ❑

BULLETIN BOARD

A. NEW REQUESTS

L&R CLEANING MACHINE MANUAL
Weldon Yarbro, Lovington, NM, is seeking an operator's manual for the L&R "Master" Cleaning Machine. AWI has such manuals for the Ultrasonic Varimatic Machine, but not for the standard "Master" machine. We will copy the manual for Mr. Yarbro if someone will send one to us.

LA CLOUCHE WATCHES
Marc Young, Peoria, IL, is seeking information about who markets a Swiss watch under the name of "La Clouche;" he says it looks like a "fossil" watch. Watchmakers of Switzerland Information Center in New York could not provide this information, nor do we find the brand name in any of our Swiss references.

R. LA PANOUSE WATCH (SWISS)
William Haggard, Nashville, IN, is seeking a schematic for a man's watch, 3 jewel, calibre GK-260 which he identifies as "R. La Panouse, S.A."

JURA WATCH CO.
J.J. Figueroa, Richmond Hill, NY, seeks information on a 1-jewel pin lever with ss hand and day/date manual wind watch with the name "Tarleton" on the dial. Under the balance is a mark strikingly similar to that of Ronda. Mr. Figueroa draws it as shown below, with the number (1317-21) appearing in conjunction with these numerals.

J.R. BROWN & SHARP TOWER CLOCK
Bent Blondal, Newport, RI, seeks information on a tower clock identified as J.R. Brown & Sharp #3.

B. RESPONSES

FALCONER HONG KONG WATCH
Irving Goldstein, Sudbury, MA, writes the following in response to Ken Heiner's request for information on the Falconer Hong Kong watch.

The front and back plate are identical to an English watch by P&A Guye (13 Northhampton Square, London) which I have in my possession. P&A Guye were in business in London from 1863-1881. I would advise Ken Hiner to look for an antique movement, preferably by Guye but depending on the parts needed. A high-grade English watch of this vintage might have interchangeable parts. Incidentally, P&A Guye produced very high-grade, free-sprung watches (the Falconer watch appears to be free sprung). The Guyes had connections with Switzerland as they used Swiss type club foot escape wheels as opposed to the English ratchet tooth type.

SEAUBIN CLOCK (ST. AUBIN)
Joseph Kucharz, Afry Company, 48 W. 46th Street, New York, NY, called regarding this clock for which Simon Allalunis, Pittsburgh, PA, was seeking parts and/or a service agent in the United States. Mr. Kucharz corrects the wording on the logo as drawn; it should be St. Aubin rather than Seaubin. Mr. Kucharz is the U.S. representative for St. Aubin. His company has many spare parts available for good quality watches and clocks which are no longer being produced. The phone number is (212) 575-9444 and the Fax number is (212) 768-9132.

C. ITEMS STILL NEEDED

ADDING AUTOMATA TO WATCHES
Myron Palay, Cleveland, OH, is seeking information about adding automata to mechanical watches. He is seeking information about ways to add such figures to existing watches as well as a source for the figures.

RITTINGER TIMERS
Ralph Dennis, Greenfield, OH, writes that he is getting Rittinger Timers, 13 jewels, from people involved with horse racing at his local race track. These timers are a product of China. Mr. Dennis seeks a source for spare parts for these timers.

UNIVERSAL TIMER
Eric Talley, Allentown, NJ, would like the distributor, service center, or information about Universal Timers. He has a Type UT-200, No. 5683 manufactured in 1975 by Nihon Dempa Kogyo Co., Ltd. in Japan.

BOLEY F1 LATHE INSTRUCTION MANUAL
Wayne Lannon, Dracut, MA, has a Boley Lathe F1. Mr. Lannon is seeking an instruction manual for it. AWI will photocopy any you might have and send it on to Wayne Lannon.

NAVY CLOCK
Thomas C. Moore, Roanoke, VA, has a 115V AC electric Navy clock which is shown in photos below and above right. This clock was manufactured by

Germantown Tool and Machine Works, Inc., Hatboro, PA. The hands and numerals are supposed to glow in the dark; it is this feature which is not working. J.M. Huckabee has provided some insight into the workings of this clock, but Huck sights the dangers of working with the voltage involved. If anyone can supply details about the possible malfunction of the display unit, preferably a schematic by the manufacturer, it would be most welcome. Members of the Antique Clock Restoration class recently held at Project Extend have particular interest.

BLACKSTONE ULTRASONIC CLEANER
Marvin Blasser, Dallas, TX, is seeking a schematic for a Blackstone ultrasonic cleaner, model SS0B, manufactured or marketed in Allentown, PA in the early 1960s.

Do you have information regarding this month's requests? Do you need information about one of this month's responses? If so, send a self-addressed, stamped business-size envelope and your request to: "Bulletin Board," c/o AWI Central, 3700 Harrison Avenue, Cincinnati, OH 45211. ❑

AWI MATERIAL SEARCH NETWORK

EDITOR'S NOTE: This column is designed to work in conjunction with the AWI Movement Bank. If you can supply any of the items listed here, please send details to the Material Search Network. **Do not send the items.** Members requesting these items will be advised of their availability and will contact you direct.

GG1 Cyma Tavannes 371, 13 ligne, movement complete.

GG2 Hebdomas 18 ligne movement complete.

GG4 A. Schild 1876, 11-1/2 ligne movement complete.

If you can supply any of these items, please contact: **AWI Material Search Network, AWI Central, P.O. Box 11011, Cincinnati, OH 45211; Fax (513) 661-3131.** ❑

AWI Holds its 32nd Annual Board of Directors Meeting

Commonwealth Hilton Florence, KY

Alice before . . .

Alice ascending to new heights.

The AWI Board of Directors met June 27-28, 1992 at the Commonwealth Hilton in Florence, Kentucky near the Greater Cincinnati Airport. During the meeting, the Board considered the final reports from all committees, and acted on the recommendations suggested in these reports.

Also during the meeting the Board considered two proposals from the delegates attending the Affiliate Chapter Meeting. These proposals were:

1) AWI provide uniform labels which can be attached to used battery collection containers. Containers can then be placed across the country by members of the Affiliate Chapters.

2) The name of the American Watchmakers Institute (AWI) be changed to the American Watchmakers and Clockmakers Institute (AWCI).

Considering the first proposal, the ELM Trust requested that since the collection of used batteries is a project for the benefit of the Trust's Education Financial Assistance Fund, they be permitted to design and produce such labels for distribution. The project was then turned over to the Trustees of the ELM Trust.

The Parlimentarian reminded the Board that since a name change would involve a change in the Constitution & Bylaws, the Board does not have the authority to make such a change. The procedure for change is spelled out in the Constitution.

The Board then received the recommendation that in all but legal papers and usage for legal matters, AWI could be referred to as the American Watchmakers-Clockmakers Institute. By using the hyphen, the well-known acronym "AWI" would not have to be abandoned. By not changing the legal name, AWI would not be obliged to change the many legal documents that now exist. These include IRS documents, incorporation documents, contracts, and many others. Since this seemed to be a solution to an issue that has been brought up for several years in a row, the Board agreed to this usage of the name in all unofficial documents and promotional pieces.

During the Saturday evening banquet, the retiring Board members were honored for their service to AWI. The retirees were: Wit Jarochowski, James Broughton, Alice Carpenter, and Marvin Whitney. These retirees must remain off of the Board for at least one year according to the AWI Constitution.

Also during the Saturday banquet, the newly elected directors were installed for a three-year term. They included: Fred Burckhardt, Marshall Richmond, Robert Bishop, Gerald Jaeger, and John Nagle.

All during her tenure, our demure President Alice Carpenter has been plagued by trying to peer over and around the lectern during the functions at which she has presided. The picture above clearly demonstrates the problem. With an assist from guest speaker Antoine Simonin, the problem was solved. Tony moved steps used to mount the speaker's podium over to the lectern for Alice to stand on, and as you can see from the next photo, President Alice was raised to new heights.

The following officers were elected and installed for fiscal year 1992-93:

Wes Door, President
Joseph L. Cerullo, 1st Vice President
Henry Frystak, 2nd Vice President
Fred S. Burckhardt, Secretary
Gerald G. Jaeger, Treasurer

Retiring President Alice Carpenter was presented with an Honorary Life Membership and a Past President's pin in appreciation for her two years of service as AWI President. She will remain as an exofficio member of the Executive Committee as Immediate Past President.

Just prior to the election of new executive officers, the Board approved Tony Knorr to serve as REC Director and Joseph Cerullo to serve as Affiliate Chapter Director. Each has all the rights and privileges of an elected director, and serves on the Board for a one-year term. The REC Director serves without a vote.

Next year's annual Board meeting will be held June 26-27, 1993. The Affiliate Chapter Meeting will be June 25, and the dates for the REC meeting remains to be decided by their officers.

Newly elected Officers, 1992-93: Joseph Cerullo, 1st Vice President; Henry Frystak, 2nd Vice President; Fred Burckhardt, Secretary; Gerald Jaeger, Treasurer, and Wes Door, President.

Retiring Directors: Wit Jarochowski, James Broughton, Alice Carpenter, and Marvin Whitney.

Newly installed Directors: Fred Burckhardt, Marshall Richmond, Robert Bishop, Gerald Jaeger, and John Nagle.

CHARLES CLEVES, NEW AWI DIRECTOR

Charles Cleves, Bellevue, KY, became an AWI Director on June 1, 1992 to replace James Adams, who resigned. Mr. Cleves finished 6th during last year's annual election for Directors, and in accordance with the Constitution, he was elevated to the position of Director. Mr. Cleves, who will complete the remaining two years of the term vacated by James Adams, attended his first board meeting as a Director June 27th.

Charles Cleves

Past President Alice Carpenter receives her Honorary Life Membership and Past President's pin from Awards Chairman Joseph Cerullo.

ANNUAL AWARDS

AFFILIATE CHAPTER ACHIEVEMENT AWARD

This award is presented to the Chapter that is judged by their peers as having provided the best service to their members, the horological profession, and the community. This year's award was won by the Horological Association of Indiana. The HIA was selected by a committee of the delegates as having the outstanding programs of the year among AWI's Affiliate Chapters. Dale Huntington is shown below receiving the award.

BROUGHTON RECEIVES AWI FELLOW AWARD

James H. Broughton received the highest awarded bestowed by AWI, that of "Fellow, AWI," on June 27th, 1992. He was not only surprised by the award, but by the unexpected appearance of his wife Helen and his son and daughter-in-law Jeff and Patricia Broughton.

In making the presentation, Awards Chairman Joseph Cerullo noted the many years of service that Jim Broughton has given AWI, who began as a chapter delegate and held almost every office there is to be held in AWI.

Broughton is best known by many members for the many traveling bench courses he has conducted for the Institute. He has visited virtually every corner of the United States with his workshops, and personally touched the lives of and earned the respect of hundreds of members.

James H. Broughton truly deserves the title "Fellow, AWI."

THE DICK LANG AWARD

The Dick Lang Award was won by Jeffrey C. Miller, CMW, of Denver, CO. Wes Van Every, Mr. Miller's instructor at Emily Griffith Opportunity School (Denver), accepted the award from Awards Chairman Joseph Cerullo.

The Dick Lang Award is presented to the individual who achieves the highest score during the year on an AWI CMW examination. Dick Lang was an Ohio watchmaker who became introduced to AWI while serving as a delegate from Ohio to the Affiliate Chapter meeting. Dick was impressed with the other delegates, directors, and guests of the Institute. He was especially impressed with the caliber of the watchmakers who held the AWI CMW title. He set his goal to become an AWI CMW. After considerable studying and practice, Dick took and passed the exam with a very high score. He confided that this was one of his most prized accomplishments.

Everyone who knew Dick Lang was impressed with the courage he exhibited as he wheeled his chair around the meetings. He was always willing to accept an assignment; no task was too difficult. His untimely death due to cancer created a void that made itself keenly felt. WAO established the Dick Lang Award so that others would remember the pride Dick Lang enjoyed as an AWI Certified Master Watchmaker.

BATTERY COLLECTIONS INCREASE SIGNIFICANTLY

Whether it is concern for the environment, the desire to help education, or the willingness to "get involved," this year's collection of used watch cells for the benefit of the ELM Trust Educational Fund showed a marked increase over collections in recent years. 865 lbs. of batteries were collected this year by the groups whose representatives are shown receiving their recognitions in the following photos. Singled out for special recognition was Ben Matz of the Horological Society of New York (below), representing the guild that contributed the most cells.

Roy Burkey of the Tuscon, Arizona Chapter (below, left) received the 2nd place award, and Paul Wadsworth of the New York State Chapter (below, right) received 3rd place.

The proceeds from the sale of these cells will all be used for student loans to help students attend full-time schools of watch/clockmaking, and for individual grants to aid in attending Project Extend courses.

Upon recommendation from the Affiliate Chapters, the Trust will supply labels which can be affixed to collectors' containers which the chapters place in various collection locations. The Tucson, AZ Chapter has a model program for the collection of cells. Details can be had by contacting AWI Central.

Two photos above: Honorable mention ribbons were presented to the guilds that participated in the Battery Contest. Those present at the banquet representing these guilds received their award ribbons.

On behalf of all the Trustees, I would like to thank all those who participated in this past year's battery reclamation drive. Thirty-one states, including Alaska and Hawaii, donated a total of 865 pounds of batteries. The proceeds from the sale of these batteries will go into the ELM Charitable Trust Educational Fund.

Fred S. Burckhardt
Chairman, Battery Reclamation Committee

AFFILIATE CHAPTER MEETING

The Affiliate Chapter delegates held their annual meeting on June 26, 1992 in conjunction with the other AWI annual meetings. Their keynote speaker was Antoine Simonin, Director of WOSTEP in Neuchatel, Switzerland. Mr. Simonin discussed with the delegates the distribution of watch spare parts and the restrictive policies a few Swiss companies have regarding supplying spare parts. His comments were basically the same as he presented in Switzerland at the 25th anniversary celebration of WOSTEP. Here is a summary of his presentation.

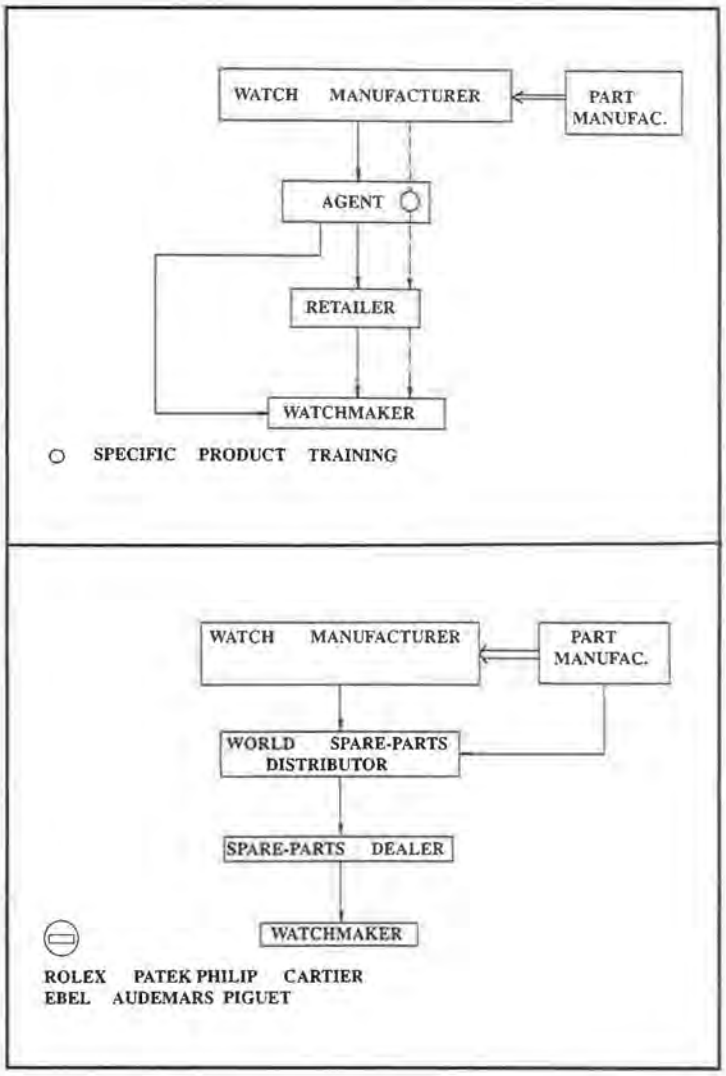
Collaboration Between Factory and Watchmaker

There is much confusion amongst watchmakers about how to obtain spare parts for Swiss watches. They are also often unaware of how to obtain training in repairing specific products. This is understandable because the structure of the industry is complicated and constantly evolving and different agents' (importers) systems can vary from one to another.

While there is no single solution to the watchmaker's problem, the aim of the lecture was to help bring about greater understanding and collaboration between the parties who need each other. They have common aims such as quality of workmanship, speedy deliveries, fair prices, and the giving of a guarantee.

Two spare parts distribution systems exist as indicated in the diagrams. The difference between them lies in the use of not of a worldwide distributor of spare parts who in turn supplies watchmakers through materials dealers. Some watch manufacturers prefer the parts for their products to go via their agents and then direct or via their retailers to watchmakers.

If a watchmaker is not on a manufacturer's or agent's list of approved repairers but would like to be, he should contact the agent, preferably with the support of the local retailer for the brand, and offer his services, inviting them to come and inspect his premises. It is up to the watchmaker to take the initiative. The same applies to getting trained in the products of a specific brand. ❑



KEY TEST FOR QUARTZ WATCHES

The "KEY TEST FOR QUARTZ WATCHES" by Ewell Hartman, CMW is a quick and simple method of locating the problem in a quartz analog movement. The only tool required is a meter.

Material and instructions for learning this test are supplied by the AWI-ELM Trust as part of their educational work. There is no charge to any group wishing to learn this test. There are great benefits to learning this in a group setting. However, for individuals who may not be able to participate in a group, it is available to them also.

For more information call or write to the AWI office for an information sheet and application form.

SCHOLASTICALLY SPEAKING

Arnold Van Tiem

1992 REC Annual Meetings

June 22-24, 1992

It was that time of year again when the REC (Research & Education Council) had its business meetings and seminars. The REC is the branch of AWI dedicated to the training and education of future horologists.

To be a member of REC, you must be a horology instructor from an AWI membership school. If you are a horology instructor and want to belong to the REC, please call AWI Central at (513) 661-3838. They'll give you information on how your school can become an AWI membership school.

This year the REC meetings went very well. We had our regular business meeting as well as three days of seminars. Unfortunately, we had a rather poor turnout from the REC instructors. Only six instructors attended the REC meetings this year. In the future I would like more instructors to get involved. Being an REC member is one thing, but to be an active member is more important. I cannot stress enough the importance of the REC; it is a vital part and a source of new membership for the American Watchmakers Institute. Even more important, the REC seminars keep the instructors up to date on new innovations in the field of horology. The end result is conveying this information to our students, the future horologists.

The six instructors that attended this year's meeting were: **Wit Jarochowski** (Oklahoma State University, Okmulgee, OK); **Tony Knorr** (North Seattle Community College, Seattle, WA); our new member **Paul Mallie** (Schoolcraft College, Livonia, MI); **Chuck McKinney** (Ohio Valley Watchmaking Institute, Cincinnati, Ohio); **Wes Van Every** (Emily Griffith Opportunity School, Denver, CO); and **Arnold Van Tiem** (Career Preparation Center, Warren Consolidated Schools, Sterling Hts., MI).

At our REC meeting, REC Director Wit Jarochowski announced the new officers and directors for its next term. The following people were elected:

Chairman:	**Tony Knorr**
Vice Chairman:	**Frank Poye**
Secretary:	**Hank Fralix**
Director:	**Wes Van Every**
Director:	**Arnold Van Tiem**

After the election announcements, the REC members went over the changes made on the Certified Master Watchmaker Exam. These changes were made due to the suggestions that the REC members made last year. Other than a few new items, this ended the business portion of the meeting. The seminars then followed.

On June 23rd, we had two speakers from the Hermle Clock Company: Gerd Hermle, who flew in from Gosheim, Germany, and Helmut Mangold, from Amherst, Virginia. Gerd is one of the owners of the Hermle Clock Company and is involved with sales of their products. Helmut is the General Manager of Plant Operations in Amherst. Both gentlemen are very knowledgable in clock manufacturing, and this was evident by their presentations.

The seminar began with Gerd informing the REC members about the history of the Hermle Clock Company. He started with the founding of the company about 100

Left to right: Wes Van Every, Chuck McKinney, Wit Jarochowski, Paul Mallie, Tony Knorr, Gerald Jaeger, Jim Lubic, Josiane Simonin, Arnold Van Tiem, and Antoine Simonin.

Front row: Wes Van Every, Josephine Hagans, Wit Jarochowski, Roy Hovey. Back row: Chuck McKinney, Arnold Van Tiem, Jim Lubic, Helmut Mangold, Milton Stevens, Gerd Hermle, Paul Mallie, and Bill Ellison.

Helmut Mangold and Gerd Hermle.

years ago by his grandfather, Franz Hermle. Hermle originally only produced clock parts, then later complete movements and clocks. As the Hermle Company began exporting their completed movements and clocks, there came a need to expand their manufacturing operations.

In the United States, Seth Thomas Clock Company began using many Hermle movements in their clock cases. Today there are many other clock companies in the United States that use Hermle movements. Because of this, there became a need for a manufacturing plant in the U.S. Hermle built a manufacturing plant in Amherst, Virginia to keep up with the demands of their products in North America. Gerd completed his lecture with an excellent video tape showing plant operations in Germany.

Helmut then talked about the plant operations in Virginia. He explained that the factory in the U.S. produces four styles of mechanical clock movements to supply U.S. clock manufacturing companies. The raw materials come into the factory and the finished products are shipped out. Helmut said that Hermle strives to make movements of high quality, yet affordably.

The Hermle representatives then freely discussed the problems that occurred in production eight or ten years ago when a soft steel was used to fabricate the arbor and pinions. Soft steel was necessary because the slow speed machinery in use at the time could only handle soft steel. More recently, Hermle has solved this problem to a large degree by acquiring improved machinery that will allow them to use a steel with higher carbon content. Hermle continues to nickel plate these components to protect them from rusting. However, a refined method of removing the plating from the pivot area has virtually eliminated the "flaking" on the pivots that occurred in the early process. Of course, this flaking led to the premature "wear" problem that most mass-produced clocks of that period exhibited.

Hermle has more recently installed an improved brass spring barrel cover at the factory which is designed to reduce the problem of excessive wear between the arbor and the barrel cover. They are also installing unbreakable mainsprings made of a special alloy. This is not the same "white" alloy that we have become familiar with in watches.

Helmut then showed a video tape on plant operations in Virginia. By viewing both tapes of German and United States plant operations and many examples of Hermle movements, one could see why Hermle's quality has improved. Many of the machining operations are all automated, enabling the workers to concentrate on quality control. The end result is a high-grade product.

On June 24th, Bill Ellison, the owner of the Horolovar Company, gave an excellent seminar covering the 400-day clock. Bill started with the history of the 400-day clock and showed a slide presentation of many unusual and rare examples of these timepieces. The early 400-day clocks were manufactured about 1881. These clocks became very popular, and many German clock companies began producing them. The 400-day clock market was directed mainly to the English-speaking countries, the United States being the largest market. After WWII, the popularity and production of these clocks came to a halt. Most of the German clock companies stopped production of mechanical 400-day clocks. Today, there is only one German company still producing the *mechanical* 400-day clocks. Other companies produce 400-day *electronic* clocks, but not the mechanical style.

Bill Ellison.

Bill concluded this historic portion of his presentation, and then went into its repair. He simplified the repair by demonstrating various repair procedures and techniques. He explained how to lubricate and set the beat adjustments. He simplified the beat adjustments by developing a paper template that you place on the base of the clock. The paper template had a protractor printed on it, which helps the repairperson see the degree of pendulum rotation after lock.

Bill also used a Horolovar beat amplifier so you could hear the "tick-tock" sound while checking pendulum rotation. He then turned the saddle (which holds the suspension spring unit) until he had the pendulum rotation equal in both directions after lock--which meant the clock was in beat.

Accuracy in timekeeping was next discussed. Early mechanical 400-day clocks were poor timekeepers, due mainly to the material used on the suspension springs. Bill explained that this is not the case today. The Horolovar Company has suspension springs produced made of special alloy spring steel which allows these clocks to run within an accuracy of about a few minutes a week. Another recommendation to improve timekeeping accuracy was to wind the clock about every three months. By doing this, the clock will have more consistent power to the time train.

Bill concluded his seminar with a slide presentation of his 400-day parts supply company in Michigan that he and his wife operate. They have almost every part needed to repair mechanical 400-day clocks. Also, they recently updated their 400-day repair guide. Bill's knowledge and repair skills on the 400-day clock are outstanding, and this was evident throughout his program. Anyone needing parts for 400-day clocks can contact Bill Ellison at this address:

The Horolovar Company
Box 264
St. Clair Shores, MI 48080

On June 25th, the REC had the pleasure of hearing Mr. and Mrs. Antoine Simonin speak at their meeting. Antoine is the director and watch instructor at the Watchmakers of Switzerland Training & Educational Program (WOSTEP). His wife Josiane helps him run the school. WOSTEP is a highly credited watchmaking school in Neuchatel, Switzerland.

Antoine's objective in meeting with the REC was to talk about the future of horologists. He reported the job outlook for future horologists is excellent all around the world.

Currently, Antoine is working together with many Swiss watch manufacturing companies to promote the training of new watchmakers. The manufacturing companies need competent watchmakers to service their products. Therefore, they are donating monies, equipment, etc. to WOSTEP to train future horologists.

Antoine said that just a few years ago (1975-1985) everyone thought that there was little need for watchmakers in the future due to the inexpensive and simplified quartz watches. In turn, very few people went into this trade during those years. In 1981, the Swiss produced 95% quartz watches and only 5% mechanical. Today, Antoine said, mechanical watch production is on an upswing in Switzerland. In 1991, the Swiss produced approximately 80% quartz watches and 20% mechanical. The consumer today wants more high-grade mechanical style watches as well as high-grade quartz and complicated watches. Therefore, with the increase in high-grade watches being produced, there is becoming a shortage of qualified watchmakers to repair them.


Antoine Simonin

Antoine went on to say that in the next 5-10 years there will be a dangerous shortage of watchmakers in the world. This is due to the fact that most of the experienced and qualified watchmakers are 60-70 years old, many retiring. Antoine calculated that there would be an approximate shortage of 10,000 watchmakers by the year 2002 (10 years from now). His calculations are based on the projected production of new Swiss high-grade quartz and mechanical watches from 1992 to 2002. This doesn't include the millions of other watches already produced. The actual shortage of watchmakers could be 20,000 to 30,000 worldwide in the next 10 years.

Because of the shortage of watchmakers today, the enrollment in the Swiss watchmaking schools has increased. Antoine reported that in Switzerland, for the first time in 30 years, watchmakers' salaries have increased. Antoine also said that abroad there is a shortage of professional watchmakers. In the United States, for example, the number of watchmakers has falled by nearly half. Yet many schools are still closing and the salaries of watchmakers are still too low. However, watch organizations are making strong efforts to promote the profession.

Antoine concluded his report with a brief overview of WOSTEP. He mentioned that WOSTEP is expanding and continually updating their school and curriculum. The enrollment has increased, and now there will be a second instructor working along with him.

Antoine did a great job reporting on the need for horologists. The future looks excellent for people making a career choice in horology.

On behalf of the REC, I would like to thank all of the guest speakers for their superb presentations. The knowledge gained will be passed on to future horologists by the REC instructors.

One last item! at the REC business meeting, the members updated the REC list of AWI membership schools. There are now 24 schools. Please check to make sure your school is listed and that the information is correct.

ALABAMA
Mobile

Southwest State College
925 Dauphin Island Pkwy.
Mobile, AL 36605
(205) 479-7476

CALIFORNIA
San Francisco

John O'Connell Comm. College Ctr.
108 Bartlett Street
San Francisco, CA 94110
(415) 550-4380

COLORADO
Denver

Wes Van Every
Emily Griffith Opportunity School
1250 Welton Street
Denver, CO 80204
(303) 572-8218

FLORIDA
Winter Park

Hank Fralix
Winter Park Adult Voc. Ctr.
2250 Lee Road, Suite 100
Winter Park, FL 32789
(407) 647-6366, ext. 253

ILLINOIS
Champaign

Bill Clary
Parkland College
2400 W. Bradley Avenue
Champaign, IL 61820
(217) 351-2288

Quincy

Gem City College School of Horology
7th & State Streets, P.O. Box 179
Quincy, IL 62306
(217) 222-0391

MICHIGAN
Livonia

Paul Mallie
Schoolcraft College
16250 Ellen Drive
Livonia, MI 48154

Plainwell

Jerry Jerue
State Technical Inst. & Reh. Ctr.
Alber Drive
Plainwell, MI 49080
(616) 664-4461, ext. 251

Sterling Heights

Arnold Van Tiem
Career Prep Center
12200 Fifteen Mile Road
Sterling Heights, MI 48312
(313) 825-2818

MINNESOTA
St. Paul

Woody Woodward
St. Paul Technical College
235 Marshall Avenue
St. Paul, MN 55102
(612) 221-1300

MISSISSIPPI
Ellisville

Elbert Lewis
Jones County Jr. College
Ellisville, MS 39437
(601) 477-9311

MONTANA
Great Falls

Great Falls Voc. Tech. Ctr.
2100 16th Avenue, South
Great Falls, MT 59405
(406) 719-2100

NEW YORK
Brooklyn

Joe Bernstein and Mr. Silva
George Westinghouse Voc. Tech. H.S.
105 Johnson Street
Brooklyn, NY 11201
(718) 625-6130

Woodside

Warren Rupert and Brian Murphy
Joseph Bulova School of Watchmaking
40-24 62nd Street
Woodside, NY 11377
(718) 424-2929

OHIO
Cincinnati

Chuck McKinney
Ohio Valley Watchmaking Institute
10600 Springfield Pike
Cincinnati, OH 45215
(513) 771-4800

OKLAHOMA
Okmulgee

Wit Jarochowski
Oklahoma State University--Okmulgee
1801 E. 4th Street
Okmulgee, OK 74447-3901
(918) 756-6211, ext. 266

PENNSYLVANIA
Johnstown

Harry Hinzy
Hiram C. Andrews
727 Goucher Street
Johnstown, PA 15915
(814) 255-5881

TEXAS
Kilgore

Toby Witherspoon
Kilgore College
1100 Broadway Blvd.
Kilgore, TX 75662
(214) 984-8531, ext. 220

Houston

Harold Neill
Houston Technical College
1301 Waugh Drive
Houston, TX 77019
(713) 529-8143

Paris

Robert Howell and Frank Poye
Paris Jr. College
2400 Clarksville Street
Paris, TX 75460
(903) 784-9361

WASHINGTON
Seattle

Tony Knorr
North Seattle Community Coll.
9600 College Way North
Seattle, WA 98103
(206) 527-3600

Tacoma

George Mitchell
Bates Vocational Tech.
1101 South Yakima
Tacoma, WA 98405
(206) 596-1500

CANADA

Polyvante Ste-Ursule
1725 Boul. du Carmel
Trois-Rivieres, Quebec
Canada G8Z 3R8
(819) 379-3644

SWITZERLAND

Watchmakers of Switzerland
Tech. & Ed. Program
(WOSTEP)
Case Postale 118
2006 Neuchatel, Switzerland
038/304 830

NEW MEMBERS

ALEX, James M.--Northbrook, IL
ATHEY, Edward A.--Santa Ana, CA
ATKINS, Bowden H.--Knoxville, TN
ATKINS, Donald W.--Portage, WI
BAKER, Stacy L.--Staunton, VA
BIRTCHER, Arthur--Laguna Miguel, CA
BONN, Ted--Port Orange, FL
BOWERS, Stacy--Greenville, OH
BRADD, William--Thetford, Norfolk, England
BROWN, John T.--Lafayette, LA
Sponsor: James Noriega--Lafayette, LA
CAMERON, Lee--San Francisco, CA
CAREY, Grant E.--Churchville, NY
Sponsor: John Lish--Rochester, NY
CARPENTER, Thomas--Moundsville, WV
CEBRA, Bill--Algonquin, IL
CELLI, Gilbert--Locust Valley, NY
COFFMAN, James--Savannah, MO
CONTRERAS, Dennis--Indio, CA
COONRADT, Richard--Kirkland, WA
COOPER, Arthur H.--Waban, MA
Sponsor: John Kurdzionak--Stoneham, MA
COREY, Joseph F.--Washington, DC
COREY, Joseph F.--Billerica, MA
COX, Douglas W.--Elkins, AR
CRAVEN, Jeffrey A.--Fairborn, OH
CROSS, Mike--Reno, NV
DOHERTY, Robert--Lindley, NY
Sponsor: Cameron Spicknall--Elmira, NY
DUNPHY, Edward--Tucson, AZ
Sponsor: Roy Burkey--Tucson, AZ
DURAN, Alexander--San Antonio, TX
EL HADDAD, Elie--Daly City, CA
FAGAN, Bill--Gilmer, TX
FEIG, Mitchell--Cold Springs, FL
FELDKAMP, David--Lexington, KY
Sponsor: Wilson Moore--Lexington, KY
FREITAG, Jerome--Harrison, OH
GABOUR, Louis H.--Salem, NH
GILLIATT, G.C.--British Columbia, Canada
GOLDMAN, Sam--Staten Island, NY
GOOD, Donald E.--Greenville, SC
GORNBEIN, Harold--Cathedral City, CA
Sponsor: Ivan W. Godwin--Running Springs, CA
GREENFIELD, Herb--Los Gatos, CA
GREF, Tom--Charlestown, RI
GUANDIQUE, Roger A.--Houston, TX
HERRING, David R.--Winter Park, FL
HO, Simon--Honolulu, HI
HOSTETTER, Beth--Rochester, MN
Sponsor: Greg Hostetter--Rochester, MN
HUTCHINSON, Michael--Campbell, CA
HUTCHISON, Donald J.--Casselberry, FL
JASSO, Victor David--Houston, TX
JOHNSTON, Richard E.--Temple, TX
JONES, Lawrence S.--Laramie, WY
JONES, Sam--Little Rock, AR
JOY, Spencer L.--Hinton, OK
KANG, Dae Suk--Brooklyn, NY
KETCH, Gary--St. Paul, MN
KING, William L.--Quincy, IL
KOPPEL, William T.--Walnut Creek, CA
KUHN, Kenneth C.--Tomah, WI
Sponsor: Greg Hostetter--Rochester, MN
KWON, Jin J.--Norcross, GA
Sponsor: Jong Suk Park--Decatur, GA
KYLE, Ron--San Antonio, TX
LAKHANI, G.N.--New York, NY
LANDIS, Richard--Evansville, IN
LAWRENCE, Larry E.--Lake Park, GA
LOBAR, William--Brookline, MA
Sponsor: John Kurdzionak--Stoneham, MA
LOHNEISS, David W.--West Hartford, CT
LOPARDO, Joseph--Ridge Manor, FL
Sponsor: Arthur Blanchard, Jr.--Webster, FL
LOSOWSKI, Chester--Ossining, NY
MACCHIARELLA, Tom L.--Los Gatos, CA
MARCH, Michael A.--Manchester, NH
MATYSZAK, Guenter R.--Eldersburg, MD
McCARTNEY, Katherine--Mokelumne Hill, CA
McCLORY, Vera F.--Hamilton, OH
McGLOTHIN, Robert W.--Plainfield, IN
MILES, Edward L., --St. Charles, IA
MILLS, Steven H.--Corvallis, OR
MITCHELL, Keith F.--Loveland, CO
MOKHLES, Wael K.--Dearborn, MI
MUELLER, Stanley A., Jr.--Tacoma, WA
MURPHY, Don--Orange, CT
Sponsor: Leo A. Jaroslaw--Acton, MA
NAMEROW, M. Adam--Encino, CA
Sponsor: Garabed Sekayon--San Luis Obispo, CA
NEUMANN, Norman A.--East Greenwich, RI
NUNEZ, Jose--Tucker, GA
OLAECHEA, Antonio--N. Hollywood, CA
OPDYCKE, Walter N.--Ypsilanti, MI
PARRESOL, Terry--Lake Alfred, FL
PERRY, Harvey C.--Boring, OR
Sponsor: Samuel D. Hansen--Pasco, WA
POTHIER, Angela--Robertsdale, AL
POWERS, Jeffery--Seattle, WA
RACHID, Soueissi--Garland, TX
REDWINE, M.L.--Durant, OK
RICHARDS, Errol--Tucson, AZ
Sponsor: Joe Wallis--Tucson, AZ
ROBINSON, William C.--Cotuit, MA
RODRIGUEZ, Tito Fuentes--Houston, TX
RODRIGUEZ, Valentin--Kuala Belait, Brunei
ROSIN, Bodo--Hercules, CA
RUBECHIN, Vladimir--St. Louis, MO
RUSK, Dan--Tucson, AZ
Sponsor: Bill Walkling--Tucson, AZ
SAVIANO, Saverio--S. Chicago, IL
SCHWARTZ, Stephen--Hollywood, FL
Sponsor: Silwyn Kirshenbaum--Dania, FL
SHELTON, Tom--Lafayette, LA
Sponsor: James Noriega--Lafayette, LA
SHERMAN, Daniel--Palmyra, NY
SHIN, Joo H.--Astoria, NY
SHORTZ, Paul A.--Goleta, CA
SISAY, Pahn--New Holland, PA
SLOVER, Dennis--Middletown, RI
STODDARD, William S.--Lomax, IL
STYRE, Robert E.--Tracy, CA
TAYLOR, Dean--Studio City, CA
TREMBLEY, Paul B.--Research Triangle Park, NC
TUTTLE, William H.--Roanoke, VA
VALLEE, M.A.--N. Smithfield, RI
VAUGHAN, Brandt--Keswick, VA
VELKAS, Mitchell--Briarwood, NY
WAHL, Shawn A.--Cincinnati, OH
WATSON, Peter H.--Newbury Park, CA
WILLIAMS, David Glenn--Tracy, CA
WILSON, Larry--O'Fallon, MO
WORCESTER, Leslie--Los Altos, CA
WORLEY, Jonathan P.--Glastonbury, CT
YOUNKER, Paul--El Cajon, CA

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J.M. HUCKABEE'S
"Random Clock Talks"

The series of 37 "Random Clock Talks" videotapes listed below are available for loan to AWI members from the AWI Audio Visual Library. The tapes vary in viewing time from 1.25 to 2.00 hours and are available in the VHS format. A service charge of $5.00 each is to accompany requests to borrow a tape; only one tape is loaned at a time. The service charge covers AWI's production and shipping costs. Tapes should be returned to AWI within 7 days after receipt, insured for $30.00. Please order tape by number along with your name, address, and $5.00 service charge. Send to: **AWI Audio Visual Library, 3700 Harrison Ave., Cincinnati, OH 45211.**

TAPE 1: Approximately 2 hours
SUBJECT MATTER: A brief view and discussion of a variety of clocks and tools used in the Huckabee shop.

TAPE 2: Approximately 2 hours
SUBJECT MATTER: Demonstration and discussion on using various tools and lathes to make and fit a clock bushing.

TAPE 3: Approximately 2 hours
SUBJECT MATTER: Discussion and demonstration on lathe operation using the Boley watchmakers lathe and the C&E Marshall watchmakers lathe.

TAPE 4: Approximately 1.50 hours
SUBJECT MATTER: An analysis and work with the Urgos 21/42 8-day trapezoid time only clock.

TAPE 5: Approximately 2 hours
SUBJECT MATTER: A demonstration and discussion about drilling the arbor using Huck's "turning in a box" method and making a pivot.

TAPE 6: Approximately 1.75 hours
SUBJECT MATTER: A demonstration of wheel cutting using clear plastic and a Mosley watchmakers lathe. Huckabee cuts four gears such as those required in the AWI certification examination.

TAPE 7: Approximately 1.75 hours
SUBJECT MATTER: The Birge & Mallory Striker Clock—a complete study and analysis of the Birge & Mallory Striker and the clock with its strap plates and roller pinions, circa 1841.

TAPE 8: Approximately 2 hours
SUBJECT MATTER: Making a great wheel and mounting the great wheel on its arbor.

TAPE 9: Approximately 1.75 hours
SUBJECT MATTER: Making and fitting a replacement pinion for a clock wheel.

TAPE 10: Approximately 1.50 hours
SUBJECT MATTER: Correcting problems caused by an elongated pivot hole by bushing with a solid bushing and the use of a "preacher" to relocate center distance.

TAPE 11: Approximately 2 hours
SUBJECT MATTER: Huckabee discusses the IBM #37 Master Clock Movement and IBM 90 Series Clock Movement.

TAPE 12: Approximately 2 hours
SUBJECT MATTER: Using a custom-made attachment to make wheels and index plates on the Unimat lathe. The custom-made attachments can be made from drawing available from AWI upon request (cost to cover printing and postage is $2.00).

TAPE 13: Approximately 2 hours
SUBJECT MATTER: Cutting clock wheels—a demonstration of cutting the wheels used in the AWI CMC examination.

TAPE 14: Approximately 2 hours
SUBJECT MATTER: Using an inexpensive quartz analog clock movement, Huckabee disassembles the movement and provides an in-depth explanation of each component and their function in the operation of the timepiece.

TAPE 15: Approximately 2 hours
SUBJECT MATTER: Huckabee presents an in-depth discussion on the design of cutting tool bits, both hand-held and those held in the tool post rest. Also a discussion of steel—its composition and characteristics.

TAPE 16: Approximately 1.50 hours
SUBJECT MATTER: Huckabee presents an in-depth discussion about hairsprings. He also demonstrates how to vibrate a clock hairspring.

TAPE 17: Approximately 1.75 hours
SUBJECT MATTER: Huckabee goes through the process of making a knurled nut, one like those used as hand nuts in Early American kitchen clocks. He demonstrates a simple way to knurl the nut.

TAPE 18: Approximately 1.75 hours
SUBJECT MATTER: Huckabee demonstrates the process of inserting a tooth into a clock wheel to replace a broken or damaged tooth.

TAPE 19: Approximately 2 hours
SUBJECT MATTER: Pivot work in the American antique Sessions, count wheel, and clock movement.

TAPE 20: Approximately 2 hours
SUBJECT MATTER: Continuation of work with the Sessions clock used in Tape 19. Complete restoration work on the movement and treating a worn great wheel.

TAPE 21: Approximately 2 hours
SUBJECT MATTER: Making an American clock verge. Huckabee demonstrates how to select and work raw materials into a verge for an Ingraham miniature kitchen clock—time only.

TAPE 22: Approximately 2 hours
SUBJECT MATTER: Completion of making a verge for an Ingraham kitchen clock from Tape 21. Also random tips and cutting a 32-tooth recoil escape wheel for an Ansonia kitchen clock.

TAPE 23: Approximately 2 hours
SUBJECT MATTER: Pivot and bushing problems and their repair.

TAPE 24: Approximately 2 hours
Not available at this time.

TAPE 25: Approximately 2 hours
SUBJECT MATTER: Clock mainspring and barrel work.

TAPE 26: Approximately 2 hours
SUBJECT MATTER: Clock mainspring ends and barrel teeth. Huckabee demonstrates how to replace teeth in the barrel of an Urgos 8-day modern clock. Huckabee also fashions a new hole end for the mainspring.

TAPE 27: Approximately 2 hours
SUBJECT MATTER: Understanding the antique American clock time train and repairs to it and using the Unimat lathe to polish pivots.

TAPES 28 & 29
Not available at this time.

TAPES 30-34: Approximately 2 hours each
SUBJECT MATTER: A series of five tapes designed as a teaching exercise which encompasses every facet of lathe work encountered in the clock shop. Produced in conjunction with a series of drawings which are provided by AWI when you borrow the first tape in the series. Upon completion of the work you have a set of excellent useable lathe accessories for use in your shop.

TAPES 35 & 36: Approximately 2 hours each
SUBJECT MATTER: Two tapes which demonstrate the use of the lathe accessories produced in the Series 30-34. This encompasses all facets of pivot work encountered in the clock shop.

TAPE 37: Approximately 2 hours
SUBJECT MATTER: A companion tape to the Huckabee book "How to Build a Regulator Clock." All components and details for their construction are discussed in detail. It is recommended that the viewer have the book at hand when viewing this tape.

Henry B. Fried's 18th Annual Horological Tour for AWI Members

France, Switzerland, and Spain

Henry B. Fried

Photos by Harry Blair and Elmer Tazuma

The tour members, many of whom were "repeaters," acknowledged this was one of the very best of the horological tours they've ever been on. The AWI members and their wives first toured Paris--and it being springtime, they agreed that the song was correct: Spring *is* the best time to see this Capitol city.

Aside from the many sites and famous museums in the tour, of special interest was the Conservatoire des Arts et Metiers, with its vast collection of clocks and watches.

The night of our arrival--a Welcome Dinner was held at the Hotel Commodore, Paris.

We were most fortunate to have as our guide for the five days in this glamorous part of the world Dr. Adolphe Chapiro, one of Europe's recognized horological authorities, and a leading chemist in his own right. This past president of the French watch and clock organization (A.N.C.A.H.A.) led us through the Conservatoire with its collection of watches, clocks, chronometers, automatons, musical clocks, and instruments. He explained the secrets of the many "mystery" clocks and the famed Breguet, Berthoud, and LeRoy marine chronometers seen only in books. The famed Jacques Droz lady automaton was there, whose articulated fingers and hands actually pressed the correct keys on a miniature piano to create beautiful, recognizable melodies. The back of this half-life-sized doll was open to observe the myriad of cams which governed the movement of the arms, hands, and fingers of such an 18th century marvel. Dr. Chapiro's explanation and history-telling made it all the more understandable and interesting.

Dr. Adolphe Chapiro, author of *French Watches*, our French guide.

On our program of visits, we were also invited to view the manufacture of ultra-complicated clocks at the UTI Hour Lavigne factory in Paris. Here we saw true artisans who made enamel panels, cases, and mechanisms. Other craftsmen were experts with piercing, engraving, metal carving, and skilled horological craftsmanship.

Using Paris as our headquarters and with Dr. Chapiro as our expert guest/guide, we radiated outward to the chateau area, visiting Chartres, Versailles, and Blois. In Blois we visited the special clock museum devoted to the mystery clocks and instruments made by the legendary Robert Houdin. As to be expected, Dr. Chapiro solved the mysteries of these involved, mind-boggling items, and explained how they worked. Blois, it may be recalled by some, is the community where in the mid-17th century enameling was developed and used mainly as miniatures on period watches.

We then had a late visit to Loire Valley to see the Chenonceau Castle. As in all of our tour this year, all meals were included, and in special places during shopping sprees

The tour group at Paris.

we were provided with envelopes of more than sufficient cash to supply meals to be used in any restaurant that we pleased. Our tour leader, Nick Larescu, who also owns the agency of our voyage, became a popular, generous host leader and was soon "bitten" by the horological bug.

In Chartres, France, their Gothic cathedral, a masterpiece of romanesque art.

Dinner at the Grand Siecle Restaurant.

A night visit to The Grand Siecle Restaurant with Louis XIV-costumed waiters was followed by a fine performance at the Folies Bergere. We then took a ride on the ultra speed bullet train from Paris to Geneva, with a remarkably smooth ride.

Geneva was our focal point for radial visits. First we went to Chamonix to see Mt. Blanc, Europe's highest mountain. There we braved the two-stage cable car ride to the 13,000-foot level and observed what appeared to be ants skiing far below. All enjoyed this thrilling ride on an unusually clear day, despite the expected changes in temperatures at the various levels.

In Geneva we visited the Museum of Horology and Enameling, as well as other popular sights. The highlight of our Geneva stop was our visit to Patek Philippe where we were treated beautifully, visiting the factory

Henry Fried with Claude Hubert, head maker of watches at Patek Philippe, Geneva, Switzerland.

Center: Henry Fried and Claude Hubert; in background, John Grass and Nick Larescu.

Mr. Buclin and Claude Hubert, Patek's makers of the Calibre 89. Natalie Gerasimchuk looks on.

where our group was given a full, detailed intimate tour. Here we saw watches being made from raw metals. We were shown and permitted to handle the Packard Patek watch, and we were surprisingly allowed to handle the new calibre 89 (world's most complicated watch). We could view it in its various stages of completion, as well as its massive two pounds of solid gold case.

We also observed that in the making of the main plates and bridges, modern machinery was employed, but in the final touches to these ultra fine pieces the watchmakers were using tools which were in use over 100 or more years ago, but still employed in the extra-fine, "Patek Philippe-finishing" touches. The two chief watchmakers, Mr. Claude Hubert and Mr. Buclin, were patient and instructive guides throughout to our group. We even came away with high quality souvenir ties bearing the Patek Philippe logo pattern.

Our last evening in Geneva was a fondu dinner and entertainment-visit to a Swiss

At the Patek Philippe watch factory.

Patek Philippe.

A Swiss master finishes a very fine Patek (new) movement.

Patek Philippe.

Bill Bruce, Peggy Blair, and Antoine Simonin having dinner in Geneva.

tavern, and we were accompanied by Antoine Simonin. Mr. Simonin is the head of the Swiss Horological School, and he gave our group a short talk enroute to our evening festivity.

Our arrival in Spain was eventful. Although forewarned about the vulnerability of tourists to sneak thieves and pick-pockets, in no less than 15 minutes of arrival at our hotel (Carlton) lobby, one of our group's handbag, along with its camera, medicines, etc. was missing (mine!). Thus, the photos displayed with this report are those of Elmer Tazuma and Harry Blair. The remainder of the tour was without further incident. Well . . . practically.

Seville, Spain.

Where a nice dinner was held in Seville.

John Camarata's reflexes were as fast as his pick-pocketer, who pleaded to be spared from John's ready fist.

In beautiful Madrid, visits to the cathedrals, museums, and especially the watch and clock exhibit at the Galdiano Museum was topped by successful shopping by member Val Gerasimchuk of Hamilton, Canada. He picked up a nice Adolphe Lange boxed marine detent escapement chronometer at a steal price.

From Madrid we took the newest and fastest bullet train, which in less than two hours brought us to Seville. At times its speed was rated at over 200 mph. In Seville we spent a full day at the World Expo, probably the last ever to be held anywhere. Also In Seville we sampled typical Spanish food and evening entertainment at a well-known restaurant and stage show, preceded by touring this historic city.

At Expo '92, Seville (Peggy Blair).

The Japanese Pavilion at Expo '92, Seville.

Traveling southward, we visited Jerez de la Frontera and its fine horological museum, opened on a Sunday for us by special governmental permission. On our entire tour, the weather was perfect tthroughout, with light clothing and informal attire most often appropriate.

We visited other cities in Spain such as Granada with its Alhambra, Malaga, Toledo, Costa Del Sol, and finally Marbella--a beautiful city on the Mediterranean. We had a farewell party high in the Sierra Nevada Mountain El Refugio Andalusian house-restaurant, reached by a tortuous, sinuous mountain route. A side trip by some to Gibraltar was rewarding, especially for Nick Larescu, our tour director, manager of the Advantage Tour Company. At the El Refugio restaurant, Nick was surprised with a handsome watch gift bought in Gibraltar, a gift of all the tour members.

Granada.

Tour members were:

Guido Alave, Fairfax, VA
Steven Bingham, Denton, NC
Forest & Ellen Black, Sonoma, CA
Harry & Peggy Blair, Marlboro, NJ
Bill Bruce, Overland Park, KS
John & Nina Camarata, Marlboro, NJ
Harry & Leone Creed, Santa Rosa, CA
Bob & Dorothy Davidson, Long Beach, CA
Henry Fried, Larchmont, NY
Val & Natalie Gerasimchuk, Hamilton, Can.
John Grass, Portola Valley, CA
Jim Hanley, Coupeville, WA
Mary Anne Hanley, Daleville, AL
George & Frances Kiser, Austin, TX
Bill Kroh, Palm Harbor, FL
Roy & Jean Malm, Owatonna, MN
Mancel & Anna Page, Grand Junction, CO
Larry & Betty Taylor, Kilmarnock, VA
Elmer & Masako Tazuma, Seattle, WA
Joyce Wahler, Palo Alto, CA

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The tour group poses in beautiful Granada, Spain.

ASSOCIATION NEWS

INDIANA
The Horological Association of Indiana will hold their Fall Workshop and Annual Meeting on September 12 and 13, 1992 at the Indianapolis Motor Speedway Motel, Speedway, IN.

For more information contact Sally Jo Alexander, 208 Alcott Road, Louisville, KY 40207.

MISSOURI
The Missouri Jewelers and Watchmakers Association held their 86th annual convention April 24-26, 1992 in Chesterfield, Missouri.

The Diamond Promotion Service hosted a breakfast and program entitled "Winning the Selling Challenge in '92" and "Diamonds, Customers, and You."

The Jewelry Design Contest was a success again this year with 32 entries.

Jewelers of America presented the Michael D. Roman Center for Business Studies Seminar "Store Design From A to Z" on Sunday afternoon. The jewelers earned credit hours toward an AJ (Accredited Jeweler) Designation.

The 1992-1993 Board of Directors are: Carolyn Pope, President; Ken Lauhoff, 1st Vice President; Creig Sterrett, 2nd Vice President; and John Mitchum, Treasurer. Directors are: Don Beacraft, Ted Burnett, Jr., Larry Davidson, Dale Gordon, Kenneth L. Hacker, Steve Lamm, Brenda Louderback, Charles Miller, Joe Montanari, and Jeff Scott, Jon Painter, MULES Director and Sharon Blair, Executive Director.

COLORADO
At the May meeting of the Colorado Clock & Watchmaker's Guild, Wes Van Every demonstrated the removal and replacement of a staff from a watch movement, and also balanced and poised the wheel. He explained the procedure using pictures projected on a screen, and then performed the procedure for the guild members, having brought his lathe and staking set to the meeting.

TEXAS
The merger of the Fort Worth and Dallas Guilds into the Metroplex Watchmakers Guild will take place at an upcoming meeting in September. For information, contact Edward Birdwell at (214) 827-7680 or (214) 245-3440; or contact Fred Burckhardt at (817) 763-0441.

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UPCOMING CONVENTIONS

August 21-23, 1992
Nebraska & South Dakota Jewelers Association
87th Annual Convention
New World Inn -- Columbus, NE

September 12-13, 1992
Horological Association of Indiana
Fall Workshop and Annual Meeting
Indianapolis Motor Speedway Motel -- Speedway, IN

September 19-20, 1992
Arizona Horological Association
Convention & Educational Conference
Best Western Inn-Airport -- Tucson, AZ

October 3-4, 1992
Watchmakers Association of Pennsylvania
Annual Convention
Penn State University Campus -- State College, PA

October 23-25, 1992
Florida State Watchmakers Association
Annual Convention
Howard Johnson Hotel -- Daytona Beach, FL

October 23-25, 1992
Illinois Watchmakers
16th Annual Convention
Keller Convention Center -- Effingham, IL

Has Your Address Changed?

Please Notify

AMERICAN WATCHMAKERS INSTITUTE
3700 Harrison Avenue
Cincinnati, Ohio 45211

Name _____

OLD ADDRESS

Address _____

City, State & Zip _____

NEW ADDRESS

Address _____

City, State & Zip _____

New Products & Literature

HOLIDAY FLYER AVAILABLE FROM ESSLINGER

Esslinger & Company has announced their new 1992 Holiday Flyer. This brochure offers a very broad range of merchandise from low to higher priced items. For details, contact: **Esslinger & Co., 1165 Medallion Dr., St. Paul, MN 55120; (800) 328-0205; in MN (800) 392-0334.**

AMERICAN PERFIT'S 128 NEW FANCY SHAPE CRYSTALS

American Perfit Crystal Corporation has introduced the addition of 128 fancy shape bent glass crystals to their line of glass/mineral watch crystals. Each one of these bent crystals are designed to fit a specific watch model. However, because they are mostly regular bent crystals, you are capable of grinding the edges to fit other models as well. These numbers are illustrated on a separate page, not found in the company's recent catalog #42.

For a free illustrated listing of these numbers, send an SASE to: **American Perfit Crystal Corp., 653 Eleventh Ave., New York, NY 10036.** Or send $3.50 for the complete catalog plus the new listing.

VIBROGRAF'S NEW HYDROGEN GAS GENERATOR FOR SOLDERING/MELTING

Because of the tremendous success of previous HT models, Vibrograf has developed the Model HT-2 electronic gas generator. This machine has a large capacity 120-litre-per-hour generator and many safety features. The clean-burning flame of the HT-2 is well suited for today's jewelry manufacturing and repair shops.

For more information, contact: **Joseph Presti, president, Vibrograf USA Corp., 504 Cherry Lane, Floral Park, NY 11001-1696; (516) 437-8700.**

PERFECT TIMING SET BY SEIKO

Perfect timing is set by Seiko with the introduction of three attractive sculptured glass clocks. Shown in the photo below is a glass clock which adds the brilliance of sparkling light to highlight any table where time is of the essence. Designed in an impressive arc shape, it features a round golt-tone dial with black markers and hands. Also being introduced are two brilliantly colored glass clocks--each with an equally distinct shape. One is a marine blue oval shape with matching Arabic numerals and markers; the other is a striking sky-blue square with a contrasting white dial and Roman numerals at the four quadrants. Each sculptured glass clock's dial is elegantly surrounded by a golden outer ring.

The Seiko clock collection is available through Seiko's nationwide sales force.

Seiko

Vibrograf

PULSAR'S PRECISION TIMING SPORTS WATCH

Fitness enthusiasts can now compete against themselves as well as against others thanks to Tech-Gear's RaceTech digital chronograph sports watch engineered by Pulsar Time. This digital alarm chronograph measures accumulated elapsed time and lap time, counting as many as 99 laps with a 30-lap memory and recall, along with a dual display which will allow the user to see the elapsed times of two competitors, plus reveal the difference in time at the push of a button. Designed with practicality, comfort, and durability, it is handsomely constructed of a strong yet lightweight, flexible black strap, and a black case vividly accented with bright red and vibrant yellow.

Other features of this watch are: a stopwatch function that measures up to 30 hours with a 1/100 second readout; a tachymeter timer to measure speed per hour; a countdown timer with a warning signal that can be set up to 29 hours and 59 minutes with auto repeat; a 24-hour indicator; daily alarm with hourly time signal; built-in illumination; an hour-minute-second, year-month-day and date readout and calendar that automatically adjusts for odd and even months and leap years to 2050. It is water resistant to 200 meters (660 feet).

Suggested retail price of this sports watch is $75. Contact: **Pulsar Time, 1111 Macarthur Blvd., Mahwah, NJ 07430.**

Pulsar

THE TOTALLY ELECTRONIC BAROMETER--A WORLD FIRST

Huger endorses its expertise in barometers with the launch of their new, completely electronic barometer, said to be a world innovation. The company has been in close collaboration with IDT (Integrated Display Technology), a leading manufacturer of electronic thermometers and hygrometers.

Since 1990, Huger and IDT have been working on the development of a new generation of barometers. Huger's long experience and thorough marketing research has resulted in the production of this new electronic barometer, enabling easy and fast reading of everything concerned with meteorology. Temperature, air humidity, and the atmospheric pressure trend are clearly displayed in internationally recognized units. These indications are of major importance for reliable weather forecasting and personal comfort.

All the necessary meteorological measurements needed for a weather station are registered electronically and represented by easily understandable symbols. A bar chart permanently displays the evolution of the atmospheric pressure over the last 24 hour. If desired, the user may even recall this information on a hourly basis. Time and date are available. Prices range from DM 200 to DM 300.

Contact: **Huger Barometer GMBH, Postfach 15 40, Niederwiesenstr. 28, D-7730 VS, Villingen, Germany; phone (49) 7721 200 30; fax (49) 7721 36 83.**

Huger's electronic barometer

L&R'S BIODEGRADABLE BUFFING COMPOUND REMOVERS

L&R Manufacturing Company, manufacturer of ultrasonic cleaning systems and solutions for a wide range of industries, has announced their environmentally friendly Buffing Compound Removers.

The L&R Buffing Compound Remover Concentrate is effective for removing most buffing compounds without the discoloration of metal. This water-based concentrate solution is a powerful wetting and sequestering agent which can be used on most precision parts. It effectively removes buffing compounds, soils, oils, and dust. After ultrasonic cleaning, parts should be thoroughly rinsed with water. The metals will emerge clean, bright, lustrous, and streak-free, with a light coating that prevents rust or tarnish.

Also, the L&R Special Buffing Compound Remover Concentrate provides the same excellent results as L&R Buffing Compound Remover, plus it removes the corrosion inhibitor. This biodegradable water-based solution is ideal for plating metal surfaces directly after cleaning.

For more information, contact: **L&R Manufacturing, 577 Elm St., Kearny, NJ 07032-3766; (201) 991-5330.**

L&R Manufacturing Co.

SWISS ARMY BRANDS INTRODUCES NEW OFFICER'S™ WATCH

One of the most popular of the successful line of Swiss Army Brand Watches is receiving a "promotion" with the introduction of an all-new Two-Tone Officer's ™ Watch by Swiss Army Brands, Ltd., sole U.S. marketers of the Victorinox® Original Swiss Army Knife.

Available in men's and ladies' styles, the watch combines a subtle interplay of 10 microns of gold finish with its sturdy, solid stainless case and bracelet. The net effect is a combination of function and elegance that is equally correct for sport or dress wear.

Use of gold accenting is noticeably restrained, with narrow strippings of gold finish to 10 microns inlaid on the bezel and tracing the circumference of the metal bracelet.

Based on a precise Swiss quartz movement, these watches are individually tested for water resistance to 10 atmospheres (330 feet). The analog face is protected by a super-hard, scratch-resistant mineral crystal. The watch hands, numerals, and military time markers are tritium-coated for maximum visibility.

The watches will be available nationwide in October '92 at suggested retail prices of $275 (leather strap) or $325 (metal bracelet). Retailers interested in ordering may call Swiss Army Brands toll-free at **1-800-243-4032** (In CT, call 1-203-929-6391).

Swiss Army Brands

BUFFALO'S NEW FLEXIBLE SHAFT MACHINE

The Buffalo Dental Mfg. Co., Inc. has introduced a power new flexible shaft outfit for continuous, extended use. The Buffalo Torq-Flex is a top-of-the-line machine. It features high torque, is user friendly, and will not stall. Each unit is wear-tested to ensure cool, true running. Torq-Flex has sealed ball bearings requiring no lubrication. It supplies speeds to 16,000 rpm and is available in 110 Volts. Provided with a hammertone gray finish, it is available as an outfit consisting of the motor and shaft, FC330 handpiece, and solid-state or resistor foot control, or as a set consisting of the Torq-Flex motor and shaft and choice of foot controls.

Contact: **Buffalo Dental Mfg. Co., Inc., 575 Underhill Blvd., Syosset, NY 11791; (516) 496-7200.**

Buffalo's flex shaft machine

LONGINES ANNOUNCES MAJOR FALL INTRODUCTION

The introduction of the lead watch for the Fall of '92 has been announced by Steve Jager, Director of Marketing, Longines-Wittnauer Watch Co., New Rochelle, NY.

"The new watch, Longines 'Laureate', is a departure from our traditional lead watches which tended, almost exclusively, to the rectangular," said Jager. He described the 'Laureate' as a carefully sculpted timepiece enhanced by engraved Roman numerals on the round bezel. "The bold bracelet detail reflects the intense sculpted pattern of the bezel," noted Jager. With date, calendar, and sweep second hand, the 'Laureate' boasts a Mineron ™ crystal and water-resistant case. Finished in 23K gold, $750 is the suggested retail price.

Jager added, "The introduction of the 'Laureate' will be supported by an intensive media schedule, including major magazines, newspapers, and radio. It's my belief that 'Laureat' will set new sales records."

For more information, contact: **Longines-Wittnauer Watch Co., 145 Huguenot St., New Rochelle, NY 10802; (914) 576-1000.**

Longines' lead watches

YPERWATCH HAS INTEGRATED RADIATION DETECTOR

At the recent IRPA8 in Montreal, the specialty trade fair for radiation protection technology, even the experts were amazed by the Yperwatch GammaControl. This wristwatch offers its wearer a current picture of the intensity of radiation at all times. It measures the biological effect on the human body in Sievert or Rem and displays the dosage in Sievert. The watch informs the wearer whether a certain threshold value has been exceeded,

and indicates this with an acoustic and optical signal.

In addition to its use in the nuclear industry, the Yperwatch GammaControl is also to be offered in the fields of medicine and dental technology. For more information, contact: **Yperwatch SA, Ernst Uhlmann, CH-8512 Thundorf, Switzerland; phone (41) 54 54 12 10; fax (41) 54 53 20 16.**

Yperwatch

PULSAR'S NEW CUSTOM DIAL PROGRAM FOR JEWELERS

Pulsar Time has announced a new Custom Dial Program for retail jewelers. The program is designed to give jewelers the opportunity to offer watches to companies and organizations featuring their own logo, symbol, or design which can be used as an incentive or award.

"Pulsar is providing the retail jeweler with an exciting new dimension to their business," stated Dean Sauder, Executive Vice President. "Usually prospects went to specialty firms; however, the Custom Dial program now allows them to be the retail jeweler's customers. The Custom Dial Program provides the jeweler with a new profit vehicle in addition to those he has already experienced with the Pulsar product line," he said.

"As a major watch brand, we have developed a broader base for jewelers, continuing to reflect our striking diversity, superior craftsmanship, and outstanding value. These are Pulsar's qualities that support the jeweler and make him more profitable," Mr. Sauder said. "Many jewelers have found this an added opportunity to provide businesses, schools, teams, civic groups, and other organizations with a source to assist them with incentives and awards."

Participating jewelers assist customers with watch selection from a wide variety of styles and price points. Every Pulsar style in the current catalog is available for customized color imprinting. Any design, logo, symbol, or message maytbe imprinted for a basic charge in up to three colors. Imprinting requires a minimum of 12 watches, with a lead time of 8 weeks. Pulsar also offers many style options for embossed medallion dial customization. This handsome three-dimensional technique results in a rich embossed logo with a lustrous gold finish on a textured satin dial. Embossed medallion dials require a minimum order of 25 watches, with a lead time of 10 weeks. As an additional customizing option, Pulsar offers personal engraving on the back of any Pulsar watch case.

To support jewelers in this fast-growing market, Pulsar has developed a complete sales promotion package. The materials consist of a brochure which explains the custom dial program in detail and an attractive 4-color display card for counter or window which reads: "It's Time Your Logo Was On A Pulsar." The brochure has an area for a jeweler imprint and is perfect to mail to prospective customers. The back of the counter card contains answers to the most commonly asked questions for the sales clerk to use as a convenient reference tool. Orders are placed by completing a Pulsar Custom Dial worksheet, and returning it with camera-ready artwork, directly to Pulsar Time.

Jewelers should contact their local Pulsar sales representative for additional information and assistance to develop and implement Pulsar's new Custom Dial Program.

Pulsar

THERE'S A "BIG TIME" IN CAMBRIA, CALIFORNIA

A turn-of-the-century street clock has been donated to Cambria, CA by Jay and Susan Foreman. The restored clock now proudly stands at 555 Main Street in Cambria's West Village.

"Big Time," as the Foremans have always referred to the clock, has led a most colorful life since it was originally built in 1900 by Mayer Brothers of Seattle, WA. From the Seattle workshops this cast iron masterpiece was moved to downtown Los Angeles where it reigned over the corner of 5th & Spring Streets until an out-of-control truck ran into it in 1941. Rather than make the necessary repairs, the clock owners had the timepiece disassembled and moved to the basement of the building--the very same building in front of which the clock had so regally stood.

For the next three decades, the clock lay hidden away, gathering dust, in that dismal basement, until it was acquired by attorney Joseph Bernfeld. It seems that Joe had done some legal work for the building/clock owners, and they couldn't pay the fee, so "Big Time" became Joe's. For several years, Joe would periodically bring the clock's movement to the Foremans' business in Los Angeles, House of Clocks, with the hope of having it restored. Jay Foreman, however, would always say, "Joe, it's just too worn to be restored."

Then in 1974 Joe, while leaving a pocket watch for repair, asked Jay if he would consider buying the street clock. Coincidentally, this was just after Susan Foreman had said to her husband, "Wouldn't it be fun to have a street clock in our backyard?" Jay obviously had no choice but to accept Joe's offer. "Big Time" was eventually restored. In 1990, the Foremans purchased their home in Cambria, and shortly thereafter, along with their friends the Finnegans, opened Once Upon A Tyme Gallery in Cambria's West Village.

Realizing that "Big Time" was made to be a public timepiece, the Foremans felt it should be shared with all. So the clock was disassembled and moved, piece by piece, to California's Scenic Central Coast. Over one year was required to restore the clock. Thanks to the efforts of many, "Big Time" has finally found a permanent home . . . and Cambria has a beautiful new landmark.

"Big Time" clock

AUDEMARS PIGUET AUCTION BENEFITS FOREST CONSERVATION

In the first of a series of auctions which Audemars Piguet plans to run worldwide for the benefit of forest conservation, a unique Royal Oak watch was auctioned off at the Hotel de Crillon in Paris.

The auction, which took place on June 29th, raised over $160,000 on behalf of the devastated French forest known as the Tete de Chien. The entire sum raised is to be given to the Office National des Forets for the reforestation of the Tete de Chien. This is one of the three French Alpine peaks which provide the beautiful backdrop for the tiny principality of Monaco. The Tete de Chien was devastated by fire in 1986 and again in 1989.

The featured item at the auction was a magnificent Royal Oak watch that combined a solid platinum case with an 18K gold dial sculpted into the shape of an oak tree. Amid excited bidding, not only from the floor of the salon, but from the international stores of Fred Joaillier, the watch sold for $129,000. Fred Joaillier shared the responsibility for organizing and promoting the auction.

"We were extremely pleased with the reception that the auction received," said Larry Geisler, Director of Sales and Marketing for Audemars Piguet in the U.S. "The uniqueness of the pieces auctioned off, in addition to the importance of the cause involved, contributed to a very successful event."

Audemars Piguet has its workshops in the Jura mountains of Switzerland. In May of this year, the Fondation Audemars Piguet, a non-profit organization, was created to raise money for reforestation projects around the world. It is believed that the amount collected at this auction will provide three years of funding for the replanting of the Tete de Chien.

GIA OFFERING A 'DAY WITH DIAMONDS'

GIA's newest seminar enables entry-level salespeople with no previous gemological training to spend a 'Day With Diamonds.'

The six-hour seminar is designed to increase diamond sales by providing hands-on experience in the basics needed to answer customer questions at the sales counter. Participants examine rough and polished diamonds and mounted stones, gain familiarity with GIA's color and clarity grading terminology and proportion considerations, and practice grading round brilliant diamonds with gemological microscopes.

Seminar topics also include fancy color diamonds, fancy shapes, color enhancement, and modern cutting styles. 'Day With Diamonds' is available to corporate sponsors, conventions, GIA Alumni chapters, or other interested groups. Currently, it is available in a two-part evening class format at GIA's Santa Monica campus, Tuesdays and Thursdays, 6-9 pm, as follows: August 25 & 27, September 22 & 24, and October 13 & 15.

To receive enrollment materials, call toll-free **(800) 421-7250, ext. 227; fax (310) 828-6589.** Or write: **GIA Registrar, P.O. Box 2110, Santa Monica, CA 90407-2110.**

LONGINES ANNOUNCES PROMOTIONS

The promotions of Bruce Powers and Gordon Balter to Vice President was announced by Robert Mazzone, Senior Vice President, Sales, Longines-Wittnauer Co., New Rochelle, NY.

Commenting on Powers and Balter, Mazzone stated that, "Both men have earned their stripes through unremitting efforts, diligence, and attention to their accounts. Their success did not come easily. Anyone associated with the watch industry will readily understand that."

Powers, a native of St. Louis, has assumed the position of Vice President, Midwest Region. Balter, an Albuquerque resident, is the new Western Region Vice President, and will relocate to California.

Mazzone also announced the assignment of three territory managers: Ed Bell, Florida; Steven Stone, Missouri, Kansas, and Nebraska; and Stuart Goldfine, New Mexico, Arizona, Oklahoma, and West Texas.

BEST OF TIMES AMONG SEIKO: RACE FOR GOLD WINNERS

Anita Tornow, manager of Best of Times, Willowbrook Mall in Wayne, NJ, was presented with a gold medal by Alan Weiner, Seiko sales representative for Northern New Jersey, as one of 58 retailers nationwide who has won an all-expense paid trip for two to the 1992 Olympic Summer Games. "The Race For Gold" sales contest was sponsored by Seiko Time for retail sales associates, store owners, and managers of authorized Seiko dealers.

Hal Wilensky, executive Vice President, Seiko Time, stated, "Ms. Tornow will be among 120 watch and clock executives and sales people that Seiko will be taking to Barcelona to witness the world's finest athletes compete as well as to see Seiko in action in its role as the Official Timer for the XXVth Olympiad. Joining them will be other Seiko retailers from around the world as well as the 250-person Seiko timing team which is being made up of Seiko personnel from the U.S., Australia, Brazil, Britain, Hong Kong, Japan, and New Zealand."

The contest was designed by Seiko to celebrate its selection as the official timer of the 1992 Summer Olympic Games in Barcelona. It also benefits the U.S. Olympic Committee, since for each Seiko U.S. Olympic Team watch or clock sold Seiko will make a donation to U.S. Olympic athletes.

TAX DEDUCTION FOR EXCESS JEWELRY & GIFTS

Excess, slow-moving inventory of costume jewelry and gift items can be turned into a federal tax deduction when donated to a nonprofit organization called NAEIR, the National Association for the Exchange of Industrial Resources. The rate of markup on these types of products can make donating a smarter alternative than clearance sales or liquidation.

For a free information packet, call **(309) 343-0704**, or write **NAEIR, Dept. JM-5, 560 McClure St., Galesburg, IL 61401.**

Anita Tornow, manager of Best of Times, is presented with a gold medal by Alan Weiner, Seiko sales rep for Northern NJ. Looking on is Hank Curran, Director of Marketing, and Tim Hall, Area Manager for the NY area, for the Best of Times.

Classified Ads

REGULATIONS AND RATES

Ads are payable in advance $.60 per word, $.70 per word in **bold type.** Classified display ads are $25.00 per column inch, 2-1/4" wide. Ads are not commissionable or discountable. The publisher reserves the right to edit all copy. Price lists of services will not be accepted. Confidential ads are $4.00 additional for postage and handling. The first of the month is issue date. Copy must be received 30 days in advance (e.g. October issue closes for copy on September 1st).

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Dates to Remember

AUGUST 1992

21-23--Nebraska & South Dakota Jewelers Association 87th Annual Convention, New World Inn, Columbus, NE.

22-23--Striking Clocks Bench Course (AWI); John Nagle, instructor; Hartford, CT.*

SEPTEMBER 1992

11-13--Advanced Clock Repair Bench Course (AWI); Roland Iverson, instructor; Grand Junction, CO.*

12-13--Advanced Quartz Watch Repair Bench Course (AWI); Robert Bishop, instructor; Indianapolis, IN.*

12-13--Repair of the Atmos Clock Bench Course (AWI); Gerald Jaeger, instructor; Indianapolis, IN.*

12-13--Horological Association of Indiana Fall Workshop and Annual Meeting, Indianapolis Motor Speedway Motel, Speedway, IN. For more information contact Sally Jo Alexander, 208 Alcott Road, Louisville, KY 40207.

19--Introduction to Quartz Watch Repair Bench Course (AWI); Buddy Carpenter, instructor; Tucson, AZ. (If advance registrations warrant, another class will be scheduled for September 20, 1992.)*

19--Servicing ETA Quartz Chronographs Bench Course (AWI); James Broughton, instructor; Tucson, AZ. (If advance registrations warrant, another class will be scheduled for September 20, 1992.)*

19-20--Cuckoo Clock Repair Bench Course (AWI); James Williams, instructor; Tucson, AZ.*

19-20--Arizona Horological Association Convention & Educational Conference, Best Western Inn - Airport, Tucson, AZ.

26-27-- Seminar and Roast to honor Marvin E. Whitney, Ramada Oxon Hill, Oxon Hill, MD. For information and reservations, please contact: Fred White, 9005 Stuart Lane, Clinton, MD 20735; (301) 868-7264.

OCTOBER 1992

3-4--Watchmakers Association of Pennsylvania Annual Convention, Penn State University Campus, State College, PA.

10-11--Repair of the Atmos Clock Bench Course (AWI); Gerald Jaeger, instructor; Seattle, WA.*

10-11--Introduction to Clock Repair Bench Course (AWI); Buddy Carpenter, instructor; Richmond, VA.*

11--Servicing ETA Quartz Chronographs Bench Course (AWI); James Broughton, instructor; Lake Worth, FL.*

16-17--Striking Clocks Bench Course (AWI); John Nagle, instructor; Savannah, GA. *

17-18--Cuckoo Clock Repair Bench Course (AWI); James Williams, instructor; Los Angeles, CA.*

18-19--400-Day Clock Repair Bench Course (AWI); John Nagle, instructor; Savannah, GA.*

23-25--Florida State Watchmakers Association Annual Convention, Howard Johnson Hotel, Daytona Beach, FL.

23-25--Illinois Watchmakers 16th Annual Convention, Keller Convention Center, Effingham, IL.

31-Nov. 1--Repair of the Atmos Clock Bench Course (AWI); Gerald Jaeger, instructor; New York, NY.

NOVEMBER 1992

8--Servicing ETA Quartz Chronographs Bench Course (AWI); James Broughton, instructor; Houston, TX.*

FEBRUARY 1993

13-14--Advanced Quartz Watch Repair Bench Course (AWI); Robert Bishop, instructor; San Diego, CA.*

***For more information on AWI Bench Courses and Regional Seminars, contact AWI Central, P.O. Box 11011, 3700 Harrison Avenue, Cincinnati, OH 45211; (513) 661-3838; Fax (513) 661-3131.**

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AWI BENCH COURSES

To register for these courses, please send along with your request a registration fee of **$25** per instruction day (for AWI members) to:
AWI Central, 3700 Harrison Ave., Cincinnati, OH 45211.
PLEASE NOTE: Registrations are limited and will be selected by the earliest postmarks.
You may register by fax if you wish; if so, please include your Visa or MasterCard number, card expiration date, and signature. **FAX: (513) 661-3131.**
For more information, call (513) 661-3838.

AUGUST 1992
22-23--Striking Clocks--Hartford, CT

SEPTEMBER 1992
11-13--Advanced Clock Repair--Grand Junction, CO
12-13--Advanced Quartz Watch Repair--Indianapolis, IN
12-13--Repair of the Atmos Clock--Indianapolis, IN
19*--Intro to Quartz Watch Repair--Tucson, AZ
19*--Servicing ETA Quartz Chronographs--Tucson, AZ
19-20--Cuckoo Clock Repair--Tucson, AZ
If advance registrations warrant, another class will be scheduled on September 20th.

OCTOBER 1992
10-11--Repair of the Atmos Clock--Seattle, WA
10-11--Introduction to Clock Repair--Richmond, VA
11*--Servicing ETA Quartz Chronographs--Lake Worth, FL
16-17--Striking Clocks--Savannah, GA
17-18--Cuckoo Clock Repair--Los Angeles, CA
18-19--400-Day Clock Repair--Savannah, GA
31-Nov 1--Repair of the Atmos Clock--New York, NY
If advance registrations warrant, another class will be scheduled on October 10th.

NOVEMBER 1992
8--Servicing ETA Quartz Chronographs--Houston, TX

FEBRUARY 1993
13-14--Advanced Quartz Watch Repair--San Diego, CA

COURSES & INSTRUCTORS

Introduction to Quartz Watch Repair
Buddy Carpenter, CMC, CMEW
Advanced Quartz Watch Repair
Robert Bishop, CMEW
Introduction to Clock Repair
Buddy Carpenter
Advanced Clock Repair
Roland Iverson, CMC
Repair of the Atmos Clock
Gerald Jaeger, CMW, CMEW, FAWI
Beginning Lathe
James Lubic
Cuckoo Clock Repair
James Williams
400-Day Clock Repair
John A. Nagle
Servicing ETA Quartz Chronographs
James Broughton, CMEW
Remy Waelchli
Advanced Lathe
Roy Hovey
Striking Clocks
John Nagle

PROJECT EXTEND CLASSES FOR 1992

Contact AWI Central for the General Information brochure for Project Extend and specific course brochures for classes that interest you. **AWI Central, P.O. Box 11011, Cincinnati, OH 45211; (513) 661-3838; Fax (513) 661-3131.**

Sept. 14-18	**Jewelry Repair** (a basic course)	Marshall Richmond
Sept. 21-25	**Clock Repair IV** (involving applied skills in specific clock repair operations)	John A. Nagle
Sept. 28-Oct. 2	**Quartz I** (an introduction course in quartz watch repair)	Gerald Jaeger
Oct. 5-9	**Quartz II** (an advanced course in quartz watch repair)	
Oct. 12-16	**Quartz III** (review for and complete the Certified Electronic Master Watchmaker Examination)	Alice Carpenter
Oct. 19-23	**Clock Repair I** (an introduction course)	James LaChapell
Oct. 26-30	**Clock Repair II** (an advanced course)	Roland Iverson