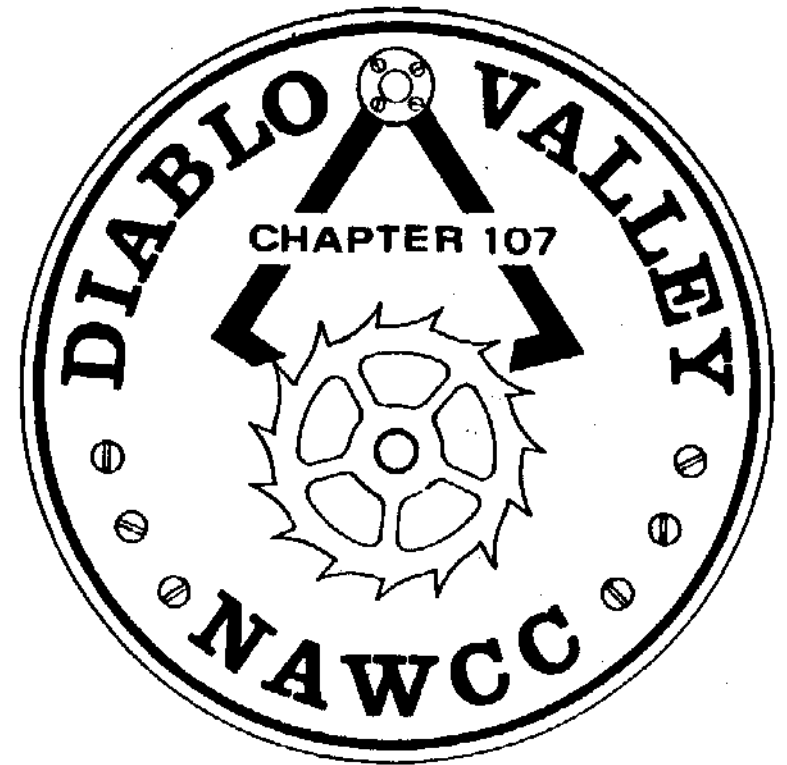


BULLETIN



December 2011
Volume 198

DIABLO VALLEY

Chapter 107

National Association of Watch and Clock Collectors

Chapter Established March 5, 1978

"Accent on Education"

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Program	Clarance Kobel	925-447-3383	
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Tool Library	Walt Hubrig	925-685-0260	dottiewalt@astound.net

Meeting Notice

December 11

11:00 AM - 2:30 PM

Annual Holiday Program

Election of Officers

Luncheon

Auction of Quality Pieces

Outback Steakhouse

150A Longbrook Way

Pleasant Hill

(Corner Longbrook Way and Ellinwood Dr.)

(Map on page 15)

If you have not made your reservation,
contact Walt Hubrig (925-685-0260).

TIME TO RENEW MEMBERSHIPS

Chapter dues are \$25.00 (spouse included). If you did not renew on the luncheon sign-up sheet, mail a check payable to "Diablo Valley Chapter 107" to Jerry Konicek, 29185 Rockport Way, Hayward, CA 94544. If you include a self-addressed, stamped envelope, your badge will be mailed to you. This will help Jerry and give us a chance to confirm your contact information.

President's Message

HAPPY HOLIDAYS good friends of Chapter 107! At the last meeting, I enjoyed the 'Show and Tell' & learning a bit about others' collections. Now I'm looking forward to seeing everyone at the Outback Steakhouse on Dec 11th!

As we bring another year to a close, I'd like to thank everyone for helping with all the incidental tasks that make this Chapter a team effort and ask that next year everyone do 'just a little more' to keep our meetings educational and fun. In particular finding ways to 'spread the load' a bit among us all will help in many ways. I am also hoping to see the Silent Auctions become a regular feature at meetings in 2012.

I would like to take a moment to thank the officers, and directors. I also thank Linda Towers for taking the initiative of bringing tasty pastries and the wonderful coffee. I don't think she's broken even yet, so please drop a little tip in, even if you may not enjoy the sweets. I have special thanks for Price Russ who does so very much behind the scenes for the Chapter and for me. I also thank Nile for opening the doors when he gets there earlier than I (always), and everyone, especially Dean Thomas for helping set up the tables and chairs. See it really is a group effort. I can't let a message go by without pleading for new members. Everyone just bring one next year, and we'll double our Chapter. We truly NEED new members.

I hope that next year we'll be able to review and compare the National's By-laws, and update our 107's as necessary. One item that came up recently is that of spouses or significant others, and membership fees. It's easy- If you live in the same house as your significant other, then only one membership fee is required. If anyone has any questions, comments, or suggestions about how the Chapter is run, or for anyone that doesn't have a current set of By-laws, please ask me or any officer.

With all the business issues aside, I am pleased to wish everyone a very Blessed & Merry Christmas Holiday Season, and hope that we all have a safe, and healthy New Year in 2012!

Chip

Editor's Page

It is commonly thought that one's perception of the passage of time speeds up with age. I must be getting really old because it doesn't seem like I could be ending a decade as editor. Fortunately Tina Thomas is going to take on the mantle. Tina has considerable experience in editing and publishing. I think we can look forward to improvements in the *Bulletin* perhaps including a new look. On the other hand, Tina is new to horology and has some trepidation about generating content. I have assured her that we will support her by supplying articles. I plan to be a routine contributor and encourage you to do the same.

My work as editor has been greatly helped by those who contributed articles or with the assembly and mailing. I have also been helped by the officers. Thank you all both for helping me and contributing your time and effort to Chapter 107. Along those lines, I would like to thank Bob Wahrer for his article on a clock he acquired at the August auction. You just never know what is in those White Elephant lots. Finally, special thanks go to Bernice who proofread every issue.

I am embarrassed to acknowledge that I consistently spelled "memoriam" incorrectly throughout my tenure. I discovered this just last week, totally by accident. I'm sure Tina will agree that if, correct that, when you see errors in the *Bulletin*, please, point them out lest they be repeated. Fortunately, we don't have an "In Memoriam" this issue.

Something I planned to do as editor, but never did, was to compile an index of articles from past issues of the *Bulletin*. They contain a lot of good information, but as things stand, it is hard to find. Would someone like to volunteer to create an index? By the way, I have electronic copies of all the issues since Feb. 2002 and some earlier ones. If you would like a CD of them, let me know.

I look forward to seeing everyone at the luncheon and auction. As Ben Franklin should have said, "An active bidder and seller be."

Price

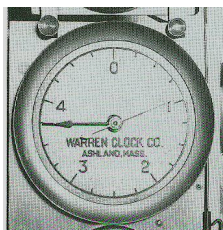
WHO NEEDED 60 CYCLE CURRENT ANYWAY?

In the August *Bulletin*, it was noted that proposals are in the works to relax the accurate control of 60 cycle current. The requirement to accurately and precisely control the frequency of AC power largely came from the work of Henry Ellis Warren who perfected the self-starting synchronous motor. (Remember the kitchen clocks that did not restart themselves?)

Although the power companies thought they were controlling frequency, Warren showed in about 1916 that their errors amounted to 10-15 minutes per day. Without that constancy clocks based on synchronous motors would not keep time and other applications based on line frequency would not function properly.

Having demonstrated the problem with early methods of frequency control, Warren developed master clocks that compared time from a pendulum clock to that of one driven by a synchronous motor. His system depending on summing the errors over time was much more accurate than instantaneous frequency measurements. Ultimately he developed 5 models of regulators as well as synchronous motor clocks for household use. His early clocks were sold under the Warren Clock Co. label. The Warren Clock Co. evolved into Telechron, which was subsequently bought by General Electric, but that is another story or maybe two.

Warren's first master clock, Type A (right), used concentric hands, one connected to the pendulum clock and one to the electric, to show the difference between the two. By comparing the pendulum clock to the wireless Naval Observatory time, the accuracy of the pendulum clock could be assured. Any difference between the pendulum and AC clock was then due to an error in the AC line frequency.

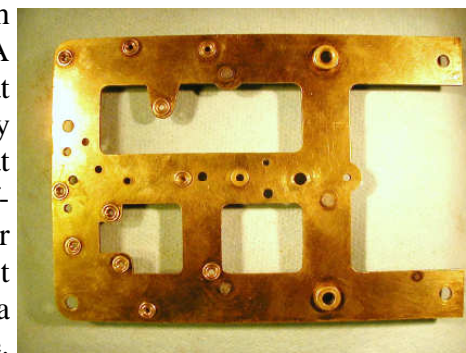


The Type B clock (left) did away with conven-
Continued on page 10

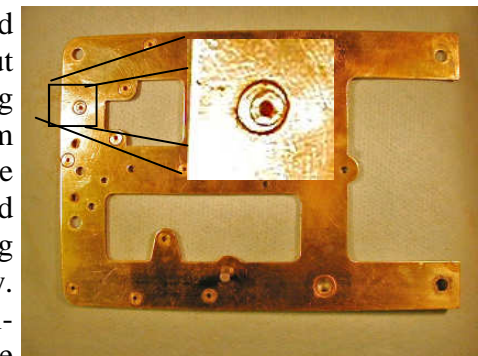
WHITE ELEPHANT CLOCK

Most clocks have a story to tell or raise some questions concerning their origin, history of ownership, methods of manufacturing or repair, etc. Last August, I was "lucky" to win several clocks at the White Elephant auction. Even though they were just "ordinary old clocks" they proved to be no exception.

One of these was a common, 1920's "Tambour" style shelf clock, time and strike made by Waterbury. The next day I removed the works for examination. The outside of the plates was not unusual, only dirty and a few worn pivot holes. However, when disassembled, it was noted that all of the pivot holes were drilled in plugs, which had been set into both the front and rear plates. This was apparently done at the factory. The plugs were neatly soldered into the plates and the outside surface of the plates was finished perfectly (Fig 1). The 1/4-inch plugs are quite apparent on the inside surfaces along with traces of solder. (Fig. 2) A likely explanation is that these plates were originally made for a movement that was similar but with a different wheel tooth count, or the pivot holes were first located improperly due to a faulty manufacturing fixture.



These rejected plates would be salvaged by drilling out all pivot holes, then plugging and re-drilling them. I am familiar with the technique of drilling out a miss-located pivot hole, inserting a plug and then re-drilling properly. However, I have not experienced this being done by the factory for all pivot holes.



Continued on page 13



Ken Gates (guest)



Bob Wahrer

October 2011 Meeting

Photos by Sophia Gardner

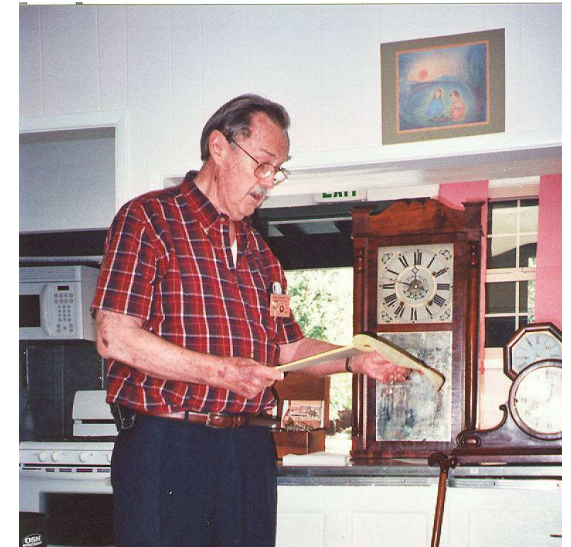
Show and Tell Day



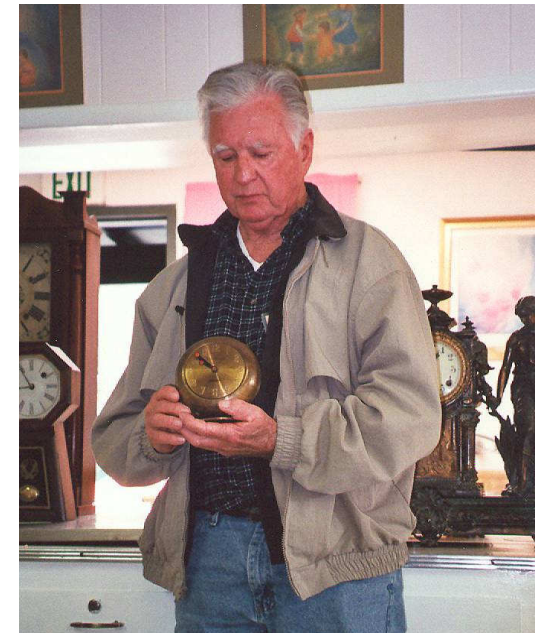
Clarence Kobel



Chip Kumarak



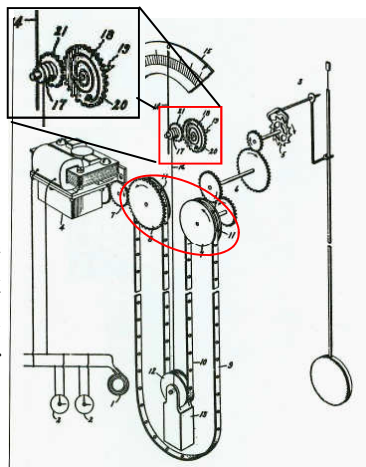
Dale Gardner



Dean Thomas

tional dials and only showed the difference between the two clocks. The hands were driven by a differential gear mechanism. (Think differential in the rear axle of cars.) The hands would move forward or backward depending on whether the frequency was high or low.

For the Type C, the differential gearing was replaced by the endless chain system shown in this patent application diagram. Between the two wheels, red oval, a weight was suspended from the chain. The synchronous motor drove the left wheel while the pendulum clock drove the right one. If the two rates were not the same, the weight would move up or down. A line ran from the weight to the wheel in the red box and enlargement. The wheel was in turn connected to a spiral spring and an indicating hand. As the weight rose and fell the wheel would be turned moving the indicating hand.



Not much is known about the Type D clock. Type E, which won't be described here, was introduced by 1929. By the mid-30s other means of regulation replaced the Warren clocks.

For more information on Henry Warren and his clocks see *NAWCC Bulletin* 273, pp 375-395 and *150 Years of Electric Horology*, Elmer Crum and William Keller (ed.) 1992, pp 77-79. For an explanation of differential gearing, see <http://www.youtube.com/watch?v=K4JhruinbWc>. It is a delightful movie from 1930 explaining how differentials work and why they are important.

As we move away from motorized clocks and other applications dependent on line frequency, the need for its careful control is diminishing.

Wait. Don't Tell Me!

Just how important is pendulum compensation in a modern Bay Area home - east of the Oakland hills? Say you are serious but not a martyr about saving energy, and the average temperature in your house is 75° in the summer and 65° in the winter. How much would the rate of a clock with an uncompensated brass pendulum vary during the year?

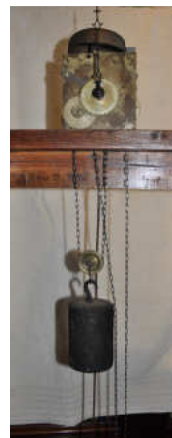


You have probably seen this monument. Where is it? What is it made of? What symbols does it contain that relate to the passage of time?

Jaeger-LeCoultre introduced the Reverso watch in 1931 in response to the problem of watches being smashed by British army officers in India during polo matches. Their solution was to turn the watch



over in its case, so that the protected back side was exposed and the face was protected. What change was introduced in 1994?



What are some of the advantages and disadvantages of an endless chain, single weight time and strike arrangement such as the one shown on the left?

OK, Now Tell Me

The period of a pendulum varies inversely with the square root of the length. Brass expands 0.000011 per degree Fahrenheit. For a ten degree change the fractional change of length will be 0.0001. The period will then change by the square root of 1.0001, which is 1.00005. Given 86,400 seconds in a day, the change in rate will be about 4 seconds per day or 2 minutes per month. For a 1 second pendulum with 32 threads per inch on the regulating nut, 1/8th of a turn would bring the clock to time. Good luck, trying to adjust a short pendulum.

The redwood statue of Father Time and the Weeping Maiden is atop the old Masonic Lodge in Mendocino. It was carved in the 1860s by Erick Jensen Albertson, a lumber mill employee. There are at least two symbols relating to the passage of time and the transitory nature of life - Father Time with his scythe and the hour glass. (The hour glass is in front of the maiden and hard to see in this picture.) Only the masons know what all the elements of the piece depict. The building is now a bank.

In 1994 Jaeger-LeCoultre introduced the Reverso with dials on the front and back that can be set to different time zones. The arrangement requires the movement to drive the two sets of hands in opposite directions.



Some advantages of the single weight configuration are simplicity, no loss of power during winding because it is wound from the strike side, and no loss of synchronization between the two trains when power runs out. A disadvantage is that there is no simple way to turn off the strike. In this particular clock the previous owner had muffled the strike with a BandAid on the bell. Can you think of other advantages or disadvantages of this scheme?

White Elephant: continued from page 7

There was one unused pivot hole in the rear plate that was completely finished, including oil sink, while the corresponding section on the front plate was just cut off leaving a burr. Another observation was that the fly in the strike train was mounted about 2 mm off center and one corner was cut off to clear a neighboring gear. It appears that the flat fly blank may have been placed improperly into the die that forms the depression for the shaft since the depression is perfectly formed except for it's location.

I would like anyone with more experience to comment on these items and possibly answer the following questions: Was this clock built with salvaged rejected parts? How common was this practice?

Bob Wahrer

CHAPTER LIBRARIES

BOOK: The Chapter book library is located at **Classical Clocks and Antiques**, 1082 E. Stanley Blvd., Livermore. Contact **Nile Godfrey** (925-449-2127) for more information.

VIDEO: Chapters 107 and 5 share a DVD video library. Contact **Price Russ** (925-937-9231) for information.

TOOL: Contact **Walt Hubrig** (925-685-0260) or **Price Russ** (925-937-9231) for information on the tools and parts available for use by Chapter members.

There is no cost to borrow items from these collections.

NOTICES FROM MEMBERS

(The Bulletin accepts notices from Chapter members for all items/subjects horological - wanted, for sale, giveaway, services, and so forth. There is no charge. All you have to do is supply copy to the editor.)

Wanted: Articles for the *Bulletin*. Contact Tina Thomas (209) 481-3930.

CHAPTER #107 MEETINGS

Second Sunday of the Even Numbered Months

Mart: 11:30AM
 Chapter: 12:30PM
 Board: after the Chapter Meeting

Future Meeting Dates

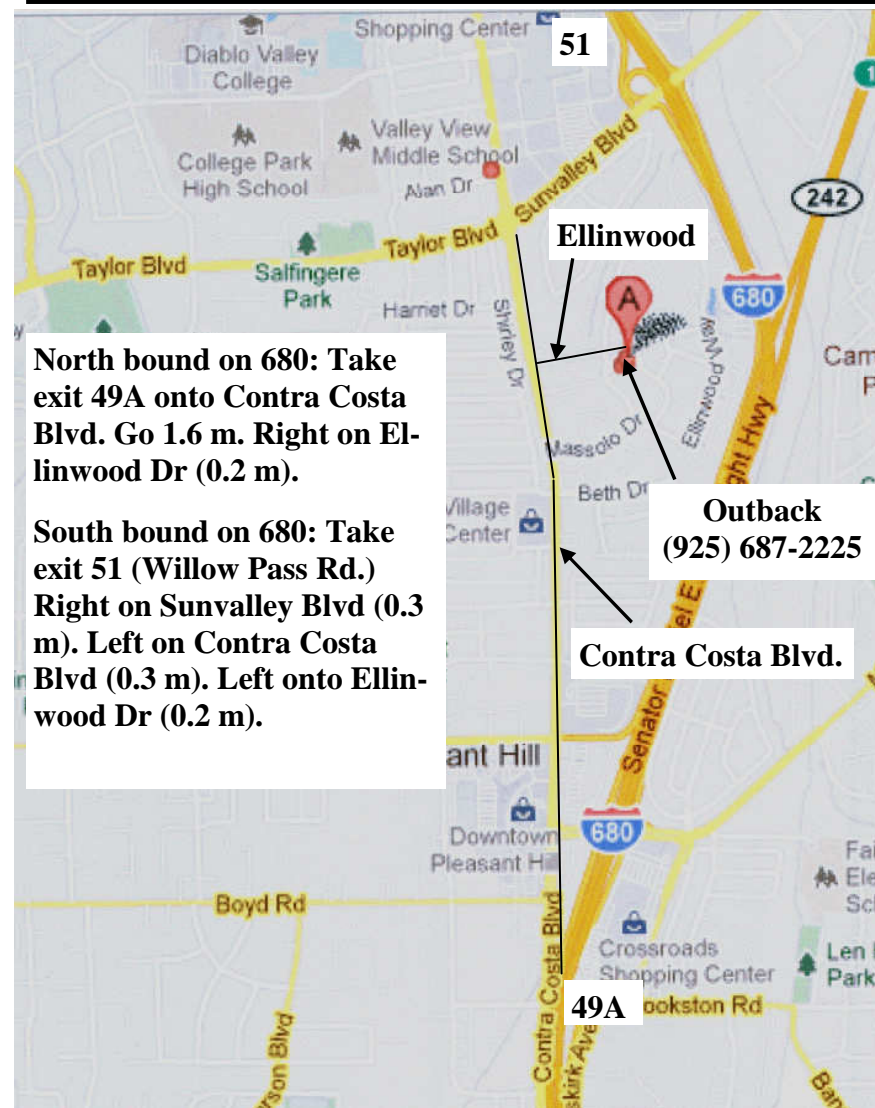
February 12, 2012 April 8, 2012
 June 10, 2012 August 12, 2012
 October 14, 2012 December 9, 2012

We want to keep our members coming to the chapter meetings on a regular basis. If you have problems with transportation to and from meetings, let a director or officer know so we can help you find a carpool.

Only NAWCC members can participate (buy or sell) in our Mart. Be prepared to show your current membership card.

Other NAWCC Chapter Meetings in Northern California		
Chapter	Meeting Address	Meetings
De Anza #94	Odd Fellows Lodge 20589 Homestead Rd Cupertino, CA	2 nd Sunday even months (except April)
Monterey Bay #70	Live Oak Grange Hall 1900 17th Ave Santa Cruz, CA	3 rd Sunday odd months
Sacramento #71	Sacramento Garden Center 3330 McKinley Blvd. Sacramento, CA	4 th Sunday odd months
San Francisco #5	Boys and Girls Club 401 Marina Blvd. San Leandro, CA	2 nd Sunday odd months

DIRECTIONS TO OUTBACK



Closing Thought

I wasted time and now doth time waste me.
 Better three hours too soon, than one minute too late.
William Shakespeare