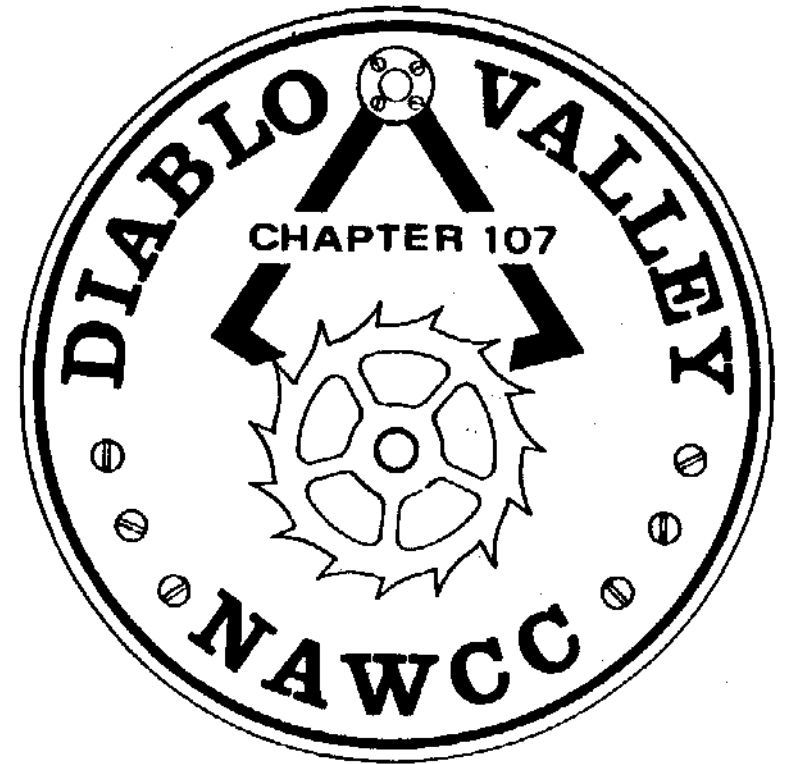


BULLETIN



October 2009
Volume 185

DIABLO VALLEY

Chapter 107

National Association of Watch and Clock Collectors
Chapter Established March 5, 1978

"Accent on Education"

OFFICERS

President	Tom Kochmann	925-228-8436	kochman3@aol.com
Vice Pres.	Nile Godfrey	925-449-2127	jng3@aol.com
Vice Pres.	Jay Taylor	510-522-2409	nutnut@alamedanet.net
Secretary	Roy Holman*	510-530-5428	royholman@gmail.com
Treasurer	Walt Hubrig	925-685-0260	dottiewalt@astound.net
Past Pres.	Dean Thomas	925-455-0929	dno337@att.net

* acting

DIRECTORS

2009	Bert Bradley	510-527-3454	bertrambradley@cs.com
2009	Chip Kumparak	408-499-4538	chips@garlic.com
2009	Bob Thomas	209-823-3863	btclock@comcast.net
2009-2010	Gareth Busher	925-686-5983	
2009-2010	Ross Smith	925-820-2180	mainuse@msn.com

COMMITTEE CHAIRS

Display	****open****		
Editor	Price Russ	925-937-9231	gpruss@pacbell.net
Library	Nile Godfrey	925-449-2127	jng3@aol.com
Mart	****open****		
Membership	Earl Watrous	510-569-4175	efwatrous@yahoo.com
Nominating	****open****		
Photo	Sophia Gardner	510-531-7565	
Program	Jay Taylor	510-522-2409	nutnut@alamedanet.net
Program	Nile Godfrey	925-449-2127	jng3@aol.com
Raffle	Jack Coulter	925-284-1031	
Refreshment	****open****		
Tool Library	Walt Hubrig	925-685-0260	dottiewalt@astound.net

Meeting Notice

October 11, 2009

Mart 10:00 Meeting 12:00

**New Location, Special Time
(directions on p. 15)**

**Grange Hall
743 Diablo Road
Danville**



**Discussion About Expanding
Meeting Activities
&
Video from the
Pasadena Regional**

For this meeting only, we are meeting early because of a schedule conflict. Future meetings will be at the regular time.

President's Message

The new meeting place for our club promises to be an upgrade in many ways. There is ample parking. The main room is very large and will accommodate a larger mart. The location puts it more central to the members from the south. After making several visits to the new place with small groups of members, we have only a few details to work out regarding the meeting continuity and hope to get your input when we discuss the matter at the upcoming meeting. We have spread the word to members of Chapter 5 regarding our new place. They have been invited to participate in the mart we will have from 10:00 until around noon. If you want to have table space please contact me or Nile Godfrey. We have 14 six-foot tables and 4 eight-foot tables. Some members who are regulars at the Chapter 5 mart will be bringing their own tables. We want to meet at the Grange Hall in Danville at 9:30 to set the place up. We need all the help we can get to do this as this hall has nobody to set up or put away the tables and chairs. Chapter 5 has a very robust watch trade when they have their meeting. Many of those folks will also come to this, our first large mart. This is something new to Chapter 107. I hope it will be received with optimism as new ideas should be. We lasted a long time at the Acalanes center, but everything changes. The people from Acalanes were actually relieved that we moved on as our meeting there was kind of a hassle for them to accommodate us. I hope you will all attend this upcoming meeting. Instead of a speaker we will show a movie made by a professional video team at the Pasadena NAWCC Convention in 2007. Some 107 members are featured on the video.!

I would like to thank the Taylor family for hosting our annual picnic. Jay and Kathy along with their three kids went above the call of duty. I know I speak for all who attended by saying "well done". The homemade ice cream really hit the spot too. The white elephant sale netted the club well over \$200. This in most part due to Cinde Godfrey who kept the bidding lively! Thanks to all who bought and sold items. Not to forget our regular auctioneer Price. He is really getting the hang of it, don't you think?

Tom

Editor's Page

I want to join Tom in thanking the Taylors for hosting our August meeting. As usual they went out of their way to host a great picnic. What was really impressive was how the whole family pitched in. Thank you, Taylors.



Those of you who don't live along the 680 corridor probably missed the article in the local paper about Hospice volunteers. Walt Hubrig was honored for 15 years of service. In case you don't know, he repairs clocks for their thrift shops. What a great way to combine a hobby and community service. I also want to acknowledge Walt's efforts to save the Chapter money by converting the checking account to one that gave us a rebate. It was not as easy as you might think. In his spare time, he is also collecting information about possibilities for the December luncheon. We will hear more about this at the meeting.

Roy Holman stepped up to take over as secretary for the rest of the year. Thank you, Roy. As noted on page 6, there are several important issues the chapter needs to consider including a slate of officers for next year.

Our new meeting location opens opportunities to attract new members and to expand our marts and displays. Thanks to Ross Smith for suggesting it, and thanks to Chip Kumparak for the post card on page 13.

The August 2007 *Bulletin* included an article about Richard of Wallingford, the author of the first technical description of a mechanical clock. The information in the article was largely from the book *God's Clockmaker* by J. D. North, a leading science historian, who recently passed away. His obituary in *Physics Today* brought Chaucer's scientific work to my attention (see page 11).

Price

IMPORTANT TOPICS FOR DISCUSSION

There are a number of topics that need to be discussed in the near future. Some are general and some relate to the new meeting location. At least the first three have to be discussed at the October meeting.

Committees: There are several committee positions open including display, mart, refreshment, and nominating. Volunteers are needed to fill these important positions.

Nominations: Ballots for 2010 officers and board members will be distributed with the December *Bulletin*. Nominations are needed. Submit them to any officer or board member.

December Meeting: Walt Hubrig has been exploring options for the December luncheon. A decision will be needed on the location and options for the meal.

New Meeting Location: The Grange Hall has enough space and convenient parking to allow us to facilitate bringing display and mart items. After seeing the new location, express your ideas for organizing future meetings.

Expanded Mart: Now that we will be meeting in a larger and better arranged space, we have an opportunity to re-invigorate our mart. Flyers announcing the new location and expanded mart were distributed at the September Chapter 5 meeting. Hopefully additional sellers will start attending our meetings. We need to discuss whether or not to charge sellers who are not Chapter members and other concerns members may have about the mart.

Display: Should tables be set up for displays and members encouraged to bring items to share?

Silent Auction: Should we have a silent auction?

Refreshments: Should we go back to having refreshments? If so what should we have and how should we pay for them? The hall has kitchen facilities if we want to use them.

JAI SINGH'S INSTRUMENTS (2)

In the previous issue, the three principal coordinate systems for measuring the movement of the heavens were described. We are all somewhat familiar with the horizontal system, which is based on using a vertical pole stuck in a horizontal plane. As the sun moves, its shadow moves around the base of the pole. Careful observers will also notice that the length of the shadow depends on the season. The position of the stars and planets can be tracked if one has a way to observe the position on the plane from which the star appears to be at the top of the pole. Such a device is more useful for tracking positions of objects in the sky than telling time because the relationship between the time scale and the pole changes with the seasons. (See the August 2008 *Bulletin* for a discussion of analemmatic sundials.)

There are problems making measurements with just a pole and a flat surface. 1) The projection of the line from the stellar object to the top of the pole may hit the ground far from the pole. (Measuring objects near the horizon would require an infinitely wide measuring surface.) 2) For measurements of the sun, the angular position of the sun is in principle easy to measure. Just record the position of the shadow. At night observations would require your eye to be on the ground.

The first problem can be solved by making the horizontal plane a circle with radius equal the height of the pole and a building circular wall around the edge with height equal that of the pole. Objects within 45° of the vertical can be measured on the bottom. Larger angles can be measured on the wall. There is still the problem of where to place the observers eye.

Jai Singh built several instruments to determine the position of objects in the horizontal system. He built them according to the cylindrical design just described. His approach to the problem of where to place the observer was cut to out slices of both the walls and floor just like taking out every other slice from a cake. That of course left him with only half an instrument. The solution was to build two instruments each had the part missing from the other. (Continued on page 10)



Dale & Sophia Gardner



Celeste Graham & Carol Slatten

August 2009 Meeting

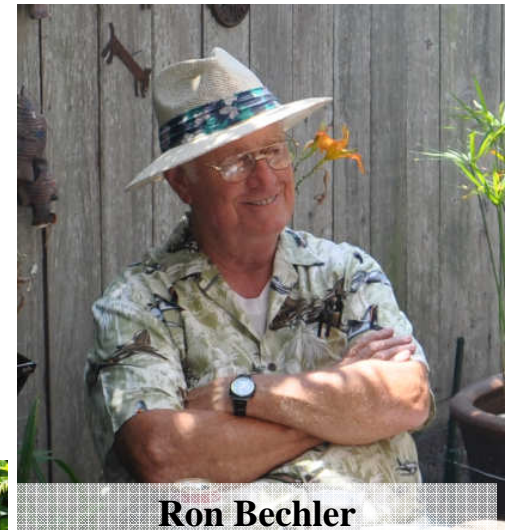
Photos by Sophia Gardner and Price Russ



Price Russ (auctioneer)



Nile & Cinde Godfrey



Ron Bechler



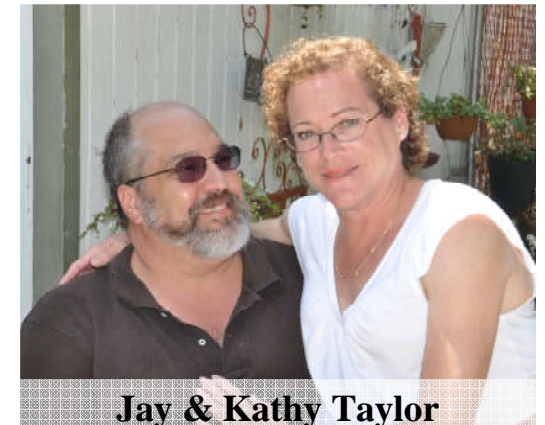
Bob Wahrer



Jan Wahrer



Roy Holman



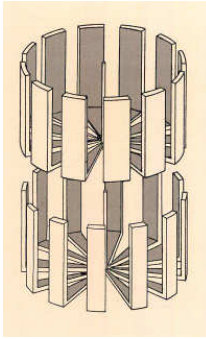
Jay & Kathy Taylor

(Continued from page 7)

The conceptual design for his instrument is shown on the right. The two parts would of course be built side by side. The actual instrument, or half of it is shown below. The size can be judged by the person sitting on the steps. The



pole, more formally known as the gnomon, is visible inside.



The instrument is known as a Rama Yantra. (Yantra means instrument.) It was probably named for Jai Singh's grandfather Rama. Drum shaped sundials were known in antiquity. Jai Singh's contribution was to split it into two pieces and use a raised floor to aid precision measurements. (The floor is at the level where the gray and tan colors meet.) Unfortunately it still had several drawbacks.

Precise observations at night could only be made at the edges of the segments. There are 24 segments, so observations could only be made once an hour. Because the sun is not a point of light, the edges of its shadow are not sharp, so it is difficult to make precise measurements using the shadow of the gnomon.



These problems led to the development of another instrument, the Digamsa Yantra shown at right. This instrument was simpler to build and could measure azimuthal angles more accurately than the Rama Yantra. It did not have a timekeeping function. Ask Price Russ if you are interested in how it worked.



Wait. Don't Tell Me!

The Chapter's new meeting location is the Grange Hall. What does "grange" mean and what is the National Grange that was commemorated in this 1967 postage stamp?



You undoubtedly read some of Chaucer's *Canterbury Tales* in high school. Did you know he was versed (pun intended) in the science of his day? How do the astroble and the illustration shown above relate to him?

The article about Jai Singh's Rama Yantra refers to measuring "azimuthal" angles. What are they?

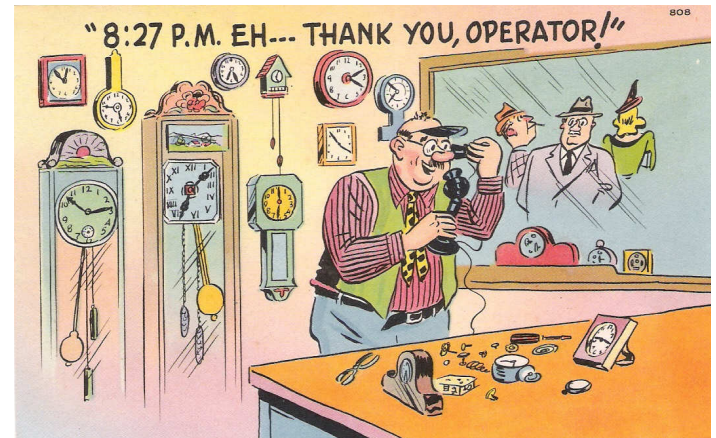
OK, Now Tell Me.

The word “grange” comes from a Latin word for granary or more generically a farm. The *National Grange of the Order of Patrons of Husbandry*, commonly called *The Grange*, is a fraternal organization for American Farmers that encourages farm families to band together for their common good. It was founded in 1867 and at one time had over a million members. Although its membership has fallen, it still has organizations in 3,600 communities in 37 states. The picture above is a promotional poster from 1873. A copy can be seen in the lobby of the Danville Grange Hall.



Chaucer wrote the oldest known technical manual in the English language. His widely disseminated *A Treatise on the Astrolabe* is addressed to “my little son, Lewis”. It is the first authoritative work on astronomy or an astronomical instrument in English. (There are earlier works in French, so it is not the oldest in the vernacular. The *Canterbury Tales* also contain various references to science showing both the state of science in fourteenth century England and Chaucer’s technical knowledge. The earliest dated European astrolabe, dated 1326, matches the one described by Chaucer in his treatise. Both original and modern English versions of the *Treatise* are available on the internet. The illustration of the man with the astrolabe and the little boy is from an early manuscript copy of the *Treatise on the Astrolabe*.)

In the horizontal system of describing the location of objects in the sky, the coordinates are defined in terms of the plane of the horizon and the point directly overhead (zenith). The altitude is the angle of the object above the horizon. The azimuth is the angle between north and a line straight down from the object to the horizon. For example, to locate an object in the sky with azimuth and altitude both equal to 45° , you would look north, turn your body 45° to the east, and look up 45° .



CHAPTER LIBRARIES

BOOK: The Chapter book library is located at **Classical Clocks and Antiques**, 1086 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.)

New class: Tom Kochmann will be teaching a clock repair class starting in January 2010. The class will be “Intermediate Clock Repair”. The place is the Mt. Diablo Education campus off Oak Park Blvd. in Pleasant Hill. It will cost \$130 and will run 10 weeks on Tuesday nights from 7 until 9. You must have repair experience. Only 20 students max. You bring your own projects. We will try to resolve any repair issue. Call Tom at 510-506-6693 for more details.

CHAPTER #107 MEETINGS

Second Sunday of the Even Numbered Months

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

Future Meeting Dates

December 13, 2009 February 14, 2010
 April 11, 2010 June 13, 2010
 August 8, 2010 October 10, 2010

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

Clock/lamp in an Indian sea-shore hotel.



The plaque above the clock reads "Happy Time".

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 CHAPTER MEETINGS

Sunday Meetings

(except August and December)

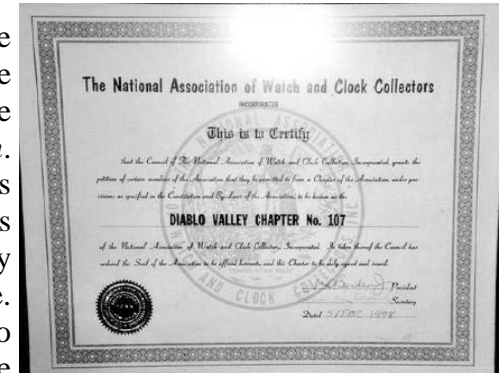
743 Diablo Road, Danville

Take Interstate 680 to the Diablo Road exit in Danville. Go east on Diablo Road for 0.6 mile. The Grange Hall will be on your right. Parking is available in the front and rear. Enter from the front; *i.e.*, street side. Facing the building from the street, there is a ramp on the right side for handicap and cart access.

We want to keep members coming to our 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.

WHERE IS OUR CHARTER?

This photograph of the Chapter's charter from the NAWCC appeared in the February 2008 *Bulletin*. None of the current officers knows who has it. It is framed and if memory serves, about two feet wide. If you have it or know who does, please, let one of the officers know. Thanks.



Closing Thought

Time is the most valuable thing a man can spend.

Theophrastus (371-287 BCE)