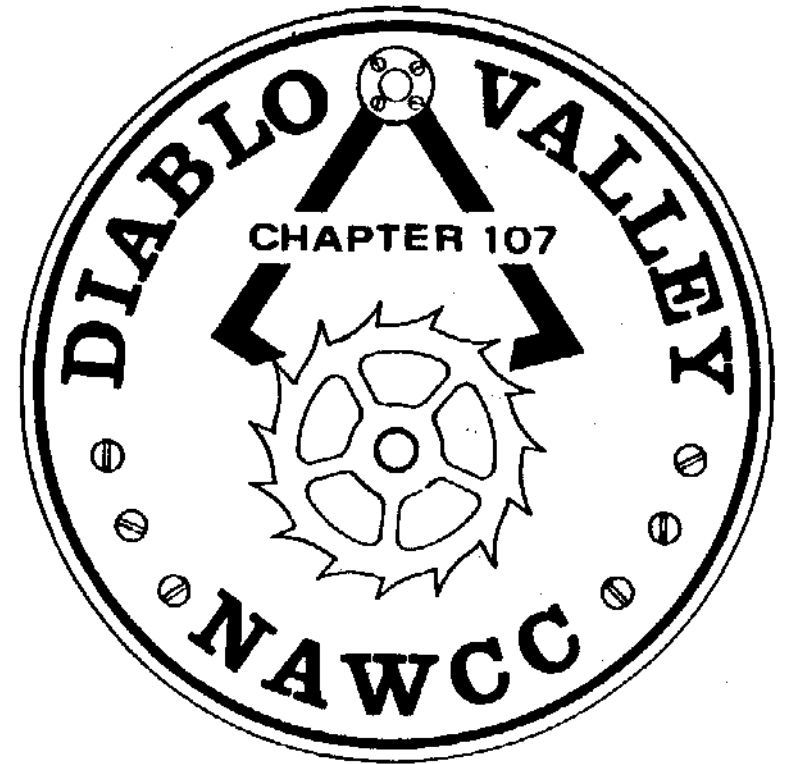


BULLETIN



August 2009
Volume 184

DIABLO VALLEY

Chapter 107

National Association of Watch and Clock Collectors

Chapter Established March 5, 1978

"Accent on Education"

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Meeting Notice

Annual Picnic and White Elephant Auction

August 9

Jay and Kathy Taylor's Home

(See page 15 for directions.)



Gather about noon. Barbeque will be ready about 1:00. Auction after lunch.

Picnic



1. The chapter will provide the meat, buns, soft-drinks, plates, cups, utensils, and so forth.
2. Please bring one of the following based on the first letter of your surname:



A-E	Dessert
F-M	Salad or veggies
N	Beans
O-Z	Chips/dips/cut fruit

3. It would help if a few people brought lawn chairs.



White Elephant Auction



This is your opportunity to get rid of your horological excess and acquire lots of new treasures. No item is too humble for this grand affair. Contribute to the fun by participating. All funds go to support the chapter.

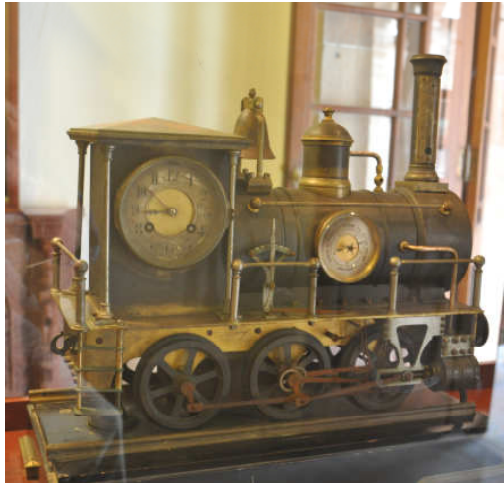
President's Message

We are going to need to find a new meeting place soon. It is my understanding that the room we meet in now will be demolished starting early next year. Mike Kookan has been very busy looking for such a place. If anyone else can assist us in the search please do so.

The upcoming annual picnic and auction promises to be fun as usual. This year it will be at Jay Taylor's place in Alameda. Two years ago I bought a compact set of sockets with ratchet handle in a zip up case, about the size of a large wallet. I use that cheap thing all the time. It was the best five dollars I ever spent. Come to the picnic and bring your auction items and let's all have a great day.

Roy Holman has been kind enough to fill in as secretary for us. Thanks Roy!

Tom



Novelty clock in the collection of the Maharaja of Jaipur.

Editor's Page

Let me start by reinforcing Tom's request to bring items for the auction. Let's see if we can repeat the great auction we had last year. I also want to thank Jay Taylor for suggesting the article on the astronomical skeleton clock (page 10) and for hosting the picnic.

In this issue I am starting a series of articles on monumental scale sundials in India. I hope you find the series interesting. The articles I write tend to be about recent gadgets, tools, horologic theory, astronomy, or whatever I have been doing recently. We need to improve the balance of the *Bulletin* so that it will appeal to a wider audience. As I mentioned at the last meeting, I am aware of one person who did not renew his membership because he felt we had not put enough emphasis on the subjects he is interested in. Unfortunately he had never made his interests known. Please let your officers and board members know what type programs you would like to have at the meetings and let me know what you would like to see in this publication.

I would like to see more articles on diagnostic and repair hints for both clocks and watches including cases, clock and watch makers, unusual types of clocks, how to collect, and new developments. The problem is that I don't know enough to write them. The *NAWCC Bulletin* contains lots of good material on these subjects. Because all of our members already get that publication, it does not make sense to use it as a source for this publication. We have had several articles based on horological aspects of members' trips. I find these very interesting and encourage others to contribute. Likewise we have had a number of articles based on members' experiences with repairs and collecting. Sharing experiences both good and bad can be very helpful. In the case of the bad experience, sharing may save someone else from learning the hard way.

Price

COSMIC TIMEKEEPING

Man's concept of time evolved from observations of the motions of the heavens. While time is now defined by atomic clocks, it was historically defined in relation to the motion of the sun and stars and to some extent by the motion and phases of the moon and planets. These motions were also used to establish north-south lines for aligning ancient structures, but that is another story. Examples of timekeepers (sun dials) are known from as far back as the ancient Egyptians. For religious as well as practical reasons, precise measurement of heavenly motion and hence time has been consistently important throughout recorded history.

To be useful for predicting events such as eclipses or timekeeping, observations of the position of the sun during the day and the moon, stars, and planets at night needed to be quantitative. This required the development of coordinate systems to use in making measurements. Three main systems evolved—horizontal, equatorial, and ecliptic. In the horizontal system, the coordinates are based on the zenith; *ie*, the point directly overhead and the north-south line. In the equatorial system, the coordinates are based on Earth's axis of rotation and the equator. The ecliptical system is based on the plane of the ecliptic; *ie*, the plane in which the planets orbit the sun. (Earth's equator is tilted 23.5 degrees from the ecliptic plane.) The horizontal system is probably most intuitive because, it is easy to relate to the plane of the horizon. Astronomical observations are most commonly made in terms of the equatorial system. The ecliptical system is primarily useful for observations involving objects within the solar system.

Early measurements were dependent on eyesight and frequently involved building sized instruments. By the eighteenth century, the physics of the motion of the heavens was understood and measurement precision had greatly improved. In Europe the introduction of telescopes and improvements in instrument construction, allowed instruments to be made both smaller and more precise. It was also possible to introduce corrections for imperfections in construction.

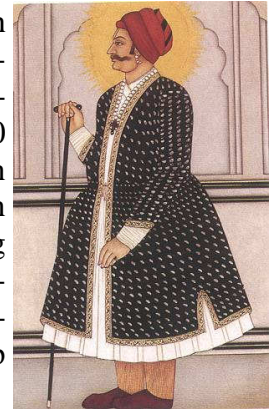
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MEETING LOCATION NEEDED

As discussed at the June meeting, the Chapter must find a new meeting location before the end of the year. Bring your ideas for the new location to the picnic, so we can compile a list of possibilities. It would be helpful if you also brought information on the availability of the location(s) you are suggesting, the rental cost, and requirements that we would have to meet; *eg*, insurance.

Continued from previous page

Meanwhile in India Maharaja Sawai Jai Singh II of Jaipur (1686-1743) was pursuing a different course. There is a long history of astronomy in India going back at least 2,500 years. When Jai Singh came to power, Indian astronomy was at a low level. He took a keen interest in revitalizing it and incorporating new knowledge. To this end he build libraries, established contacts with European astronomers, and built observatories to develop new astronomical tables.



Rather than follow the European practice of building observatories using telescopes and metal instruments, Jai Singh opted to concentrate on immense instruments of stone. Observatories were built in five cities with the ones in Jaipur and Delhi being the most famous and best preserved. In his observatories, Jai Singh included instruments based on all three coordinate systems. Most of them could be used for both solar and celestial observations, so they were intended for both timekeeping and generating astronomical tables. However their solid construction made it difficult to make certain observations and to correct imperfections. Among the instruments are a variety of sundials including the world's largest.

Subsequent articles will discuss examples of Jai Singh's instruments. Among other things, we will see why larger is not always better.



Mike Kookan

June 2009 Meeting



Tom Kochmann (speaker)



Earl Watrous



Jerry Konicek & Jim McElroy



Roy Holman, Dean Thomas, & Bob Wahrer

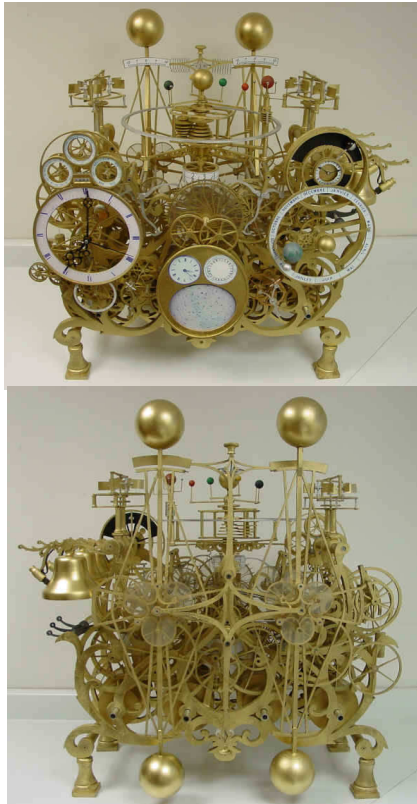


Jason Evans & Jay Taylor

AN EXTRAORDINARY PROJECT

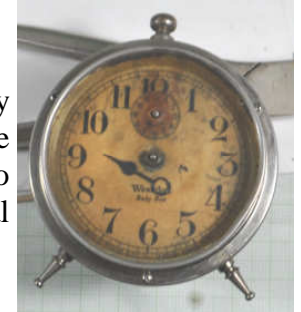
The firm Buchanan of Chelmsford, Australia is building the astronomical skeleton clock pictured below for Mark Frank who has an extensive web site, www.my-time-machines.net, describing his collection and the construction of this clock. The escapement is based on Harrison's H1. Functions include a 400 year perpetual calendar, equation of time, sidereal time, sun/moon rise and set, moon phase, tides, eclipses, planisphere (star map), tellurium (sun-earth-moon system) and orrery with functional moons out to Saturn.

The photos are of a wooden mockup. The actual clock is under construction. It is estimated that it will contain over 200 wheels, 5000 parts, stand 77 inches high, and weigh 600-700 pounds. Construction should be completed within the next year.



Wait. Don't Tell Me!

The Baby Ben alarm clock has a very dirty dial. It appears someone heavily oiled the dial, which is paper. What could you do to clean it? (This clock is also missing several parts.)



The Wahrers found the following poem in some old papers. Do you know who wrote it?

When I was a little lad, my Grandfather said
 that none should wind the clock but he, and so at time for bed,
 He'd fumble for the curious key, kept high upon the shelf,
 and set aside that little task entirely for himself.
 In time Grandfather passed away and so that duty fell,
 onto my father who performed the weekly custom well.
 He held that clocks were not to be, by careless persons wound,
 And he alone should turn the key, or move the hands around.
 I envied him that little task and wished that I might be,
 the one to be entrusted with the turning of the key.
 But year by year the clock was his exclusive bit of care,
 Until the day the angles came and smoothed his silver hair.
 Today the task is mine to do, like those who've gone before.
 I am a jealous guardian of that round and glassy door.
 And until at my chamber door, God's messenger shall knock
 To me shall be reserved the right to wind the clock.

If you want to set up a sun dial properly, you will need to establish north. How can you do this using the sun, a pole, a string, a stick, some water, and a shovel?

OK, Now Tell Me.

Here is the same dial after soaking in toluene for about 24 hours. It does not look new, but it is a lot better than at the beginning. (Minute and alarm hands were fabricated from an old spring. The bow was made from steel rod.)



An internet search revealed that the poem was written by Edgar Guest (1881-1959) a prolific American poet popular in the first half of the 20th century. Guest wrote 11,000 poems which were syndicated in 300 newspapers.

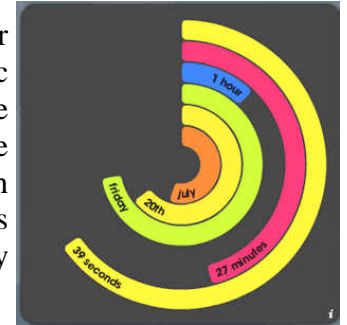
To establish north,

1. Level a roughly circular area with radius comparable to the length of the pole. (Use the stick to make channels that can be filled with water. This will establish level.)
2. Set the pole vertically into the ground roughly in the middle of the area. (The string and stick can help you establish the vertical.)
3. At any time before noon, using the stick mark an X at the end of the shadow
4. Use the stick and string to draw the circle centered at the pole and with radius equal to the measured length of the shadow.
5. Find some shade, have lunch and take a nap.
6. In the afternoon, mark the point at which the shadow again intersects the circle. (If you over sleep, try again the next day.)
7. Use the string to find the mid point of the line between the two points where the shadow crossed the circle. (You thought high school geometry would never be useful.)
8. Use the string to make a line from the pole through the point determined in the previous step. This line points north (or south if you are in the southern hemisphere).

You are now ready to set up your sun dial.

INTERESTING NEW GADGET

The “Polar Clock” is a screensaver available for both Windows and Mac computers as well as iPhones. The month, day of the month, day of the week, hour, minute, and second are each shown on concentric circles. The arcs are filled in as time passes the same way clock hands advance.



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.)

CHAPTER #107 MEETINGS

Second Sunday of the Even Numbered Months

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

Future Meeting Dates

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

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 the Picnic
1135 Morton Street, Alameda
(Corner of Morton and Encinal)
510-522-2409 or 510-589-8592

Large green Victorian with ivy fence around the front. (Rear section has a wood fence close to carriage house.) Entrance is iron gate on Morton St at the front of the house or on the Encinal side there is a slight ramp to the right of the carriage house with a wooden gate. Just walk around the back of the house where the tables are set up. **Warning: Alameda enforces its speed limits and pedestrian right of way.**

Westbound on Highway 24 (turns into Interstate 980):

Take 12th St. exit. Left onto Brush St. Left onto 5th St. Turn left at Broadway and right at CA-260. Go through tunnel. Stay on Webster to Central. Left onto Central Ave. (CA-61) for 0.8 miles. Right onto Morton.

Southbound on Interstate 880:

Take Broadway/Alameda exit. Turn right onto 5th St. Take I-880 S ramp. Keep right at fork and merge onto 5th St. Turn left at Broadway and right at CA-260. Go through tunnel. Left onto Central Ave. (CA-61) for 0.8 miles. Right onto Morton.

Northbound on Interstate 880:

Take High St. exit. Go left on High St. and cross bridge into Alameda. Continue to Encinal Ave. (about 10 blocks) and turn right. Proceed about 1.8 miles to Morton St. Left on Morton.

Closing Thought

Time is free, but it's priceless.
You can't own it, but you can use it.
You can't keep it, but you can send it.
Once you've lost it, you can never get it back.

Harvey Mackay (columnist, born 1932)