

The Crank Calls



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MEMBERSHIP \$25.00 US

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NEXT MEETING

**June 17, 2017 at
TechShop Midpeninsula
2415 Bay Rd
Redwood City, CA**

Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

BAEM meetings: 3rd Saturday of the month

MEETING PLACE FOR June 17th

We will meet this month at the TechShop Midpeninsula, 2415 Bay Rd, Redwood City, CA.

DIRECTIONS: Take the Woodside Rd exit on US 101 heading West, Make your 1st left onto Broadway, 1st Right onto Charter St, 1st left onto Bay Rd and a left into the TechShop parking lot.

MEETING NOTES

May 20, 2017

Bob Kradjian, Secretary

President Paul Denham called the meeting to order at 10:00 am at the Golden Gate Live Steamer Facilities.

VISITORS: William Zurbrick joined our meeting. He is our newsletter Editor Larry Zurbrick's son.

Mohamed Chaaito also visited. He was a guest of Steve Hazelton and is a mechanical engineer with PG&E. Mo says he is interested in joining our efforts to make miniature engines.

MEETINGS: Club members again joined the Golden Gates Live Steamers for their Spring Open House on June 4. Those of us who joined with them last year had a great time; this year was no exception. Participating members were: Charlie

Reiter, Peter Lawrence, Bob Hettinger, Larry Bunch, Paul Denham, Gene Ellerbush, Ray Fontaine, Anthony Rhodes, Bob Kradjian, Mike Rehmus, and Dwight Giles. We had many friendly visitors of all ages who viewed our engines. Also noted, was that the GGLS members have beautifully finished the wiring and installation of the large video flat screen monitor.

GROUP BUILD:

Steve Hazelton, Wes Wagon, and Aaron Keller, brought us up to date on the Webster Engine build. They now have all three flywheels completed. President Paul has volunteered to help with the ignition system. He uses the Sage system as described in the last newsletter. Paul also prefers the reliable reed relay system with repurposed car over-plug coils. The reeds are very inexpensive and don't burn out. They can handle up to 6,000 rpm on a V-8!

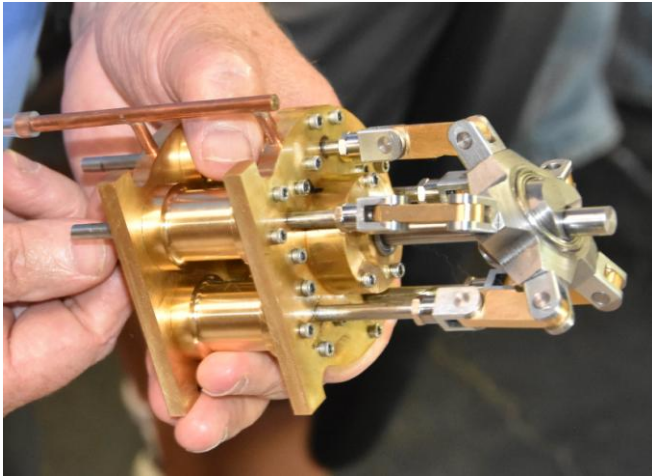
FIRST POPS: Ray Fontaine was able to get his Powerhouse engine to run well.

Not a first pops, but actually "first puffs" from a steam engine, this was from Peter Lawrence's swash-plate engine to be described below.

TREASURER'S REPORT: We're in the black and doing well.

CLUB BADGES: If you are a member in need a badge, contact Mike Rehms (mrehmus@byvideo.com) who has offered to produce them.

BITS AND PIECES



Peter Lawrence showed us his swash-plate engine that he mentioned as a first puff. He was forced to abandon the original "O" ring arrangement because of excessive friction. Hard Teflon rings were next tried, but they were still too stiff. He finally settled on softer rectangular rings that did work, but leaked. He next plans to shim the rings outward with thin brass. This five-cylinder steam engine runs nicely on 40 p.s.i. air-feed with no vibration.

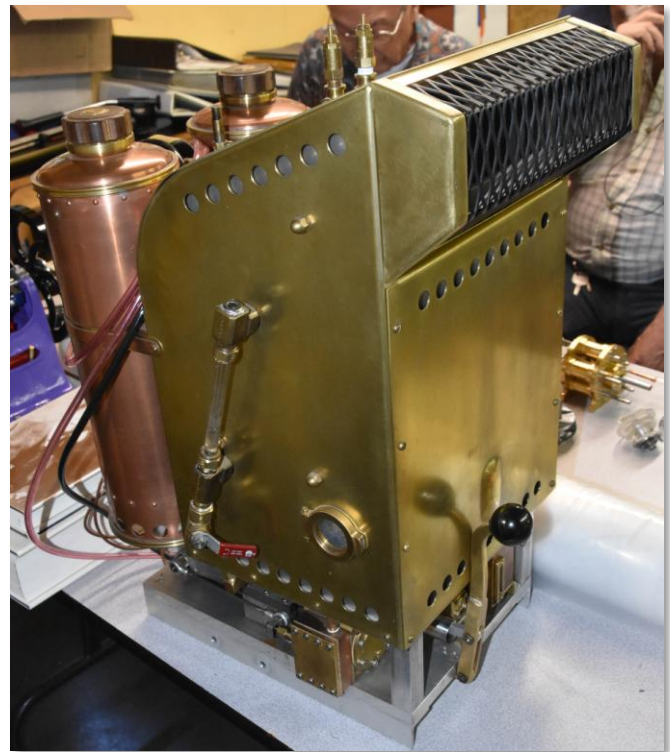


Edward Stanley showed his remarkable clock project. The face is nicely engraved. He uses an

assortment of gears, roller clutches, and pinions connected to a drive with oddly numbered gears



that he had to hob out himself. It is weight driven, not a fusee, he says. This drove your secretary to the Internet to discover just what a fusee is. A fusee is an ancient device that involves a conical pulley or wheel, often with helical grooves, to send a belt or other link to a mainspring barrel. Leonardo da Vinci is alleged to have conceived of such a device in the 1490 or thereabouts. The level of workmanship in Ed's work is of a very high level and his ability to cut gears is remarkable.

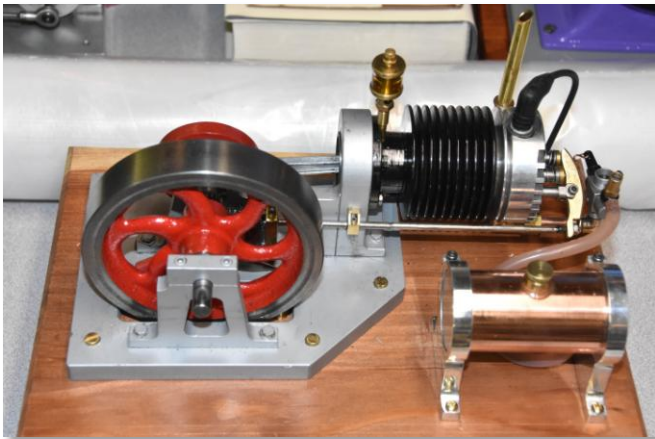


Charlie Reiter made a steam engine for a bicycle! The boiler and engine are in one 70-pound unit. A Coleman burner supplies the heat. He modified a

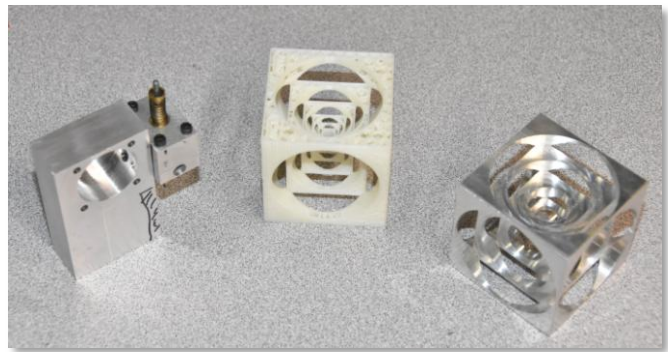
camp stove for this application. The boiler has a triple wall. The two-cylinder engine has a one-inch bore and a one and an eighth stroke. With the weight, Charlie decided to graft the engine into an abandoned tricycle instead of a bicycle. For easy starting, he has a dual fuel system using propane and benzene. The engine is based on a Tiny Power set of castings. The entire project demonstrates first class planning and machining.



Ray Fontaine showed us the 3D mock ups for an antique engine he is attempting to reproduce. Camshaft design was a sticking point. His ability to create working mock-ups is remarkable.



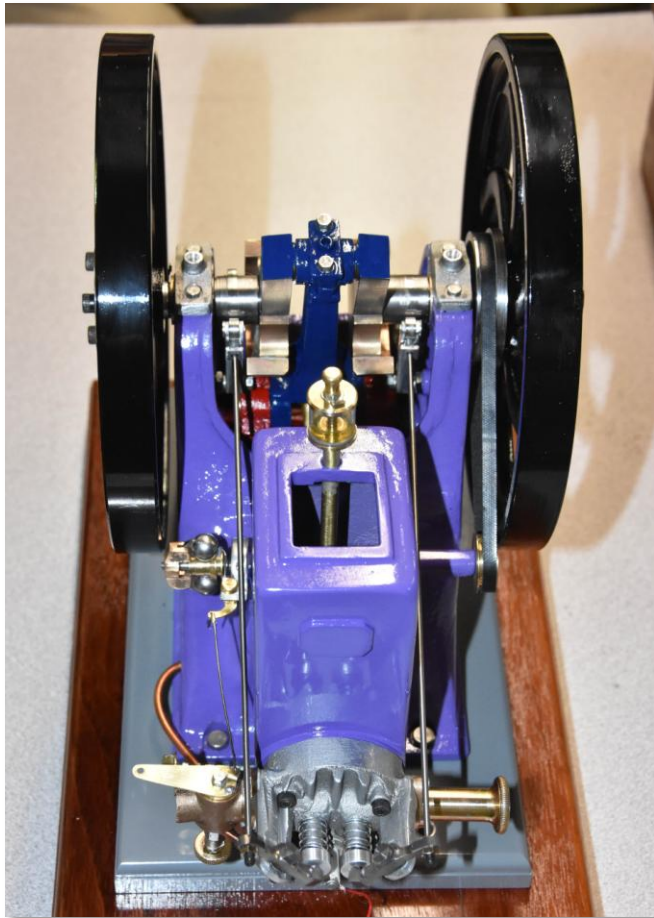
A second showing was his Jerry Howell engine. He fitted it initially with a TIM 6 ignition system. It sputtered a few times and then totally failed. A CDC device was substituted, now it promptly started and ran well. He then made a nice demonstration of the engine's running.



A set of Machinist's cubes (Turner's Cubes) was shown by Mike Byrne. He took a CNC course as well as a Solid Works course and made his cube on a CNC mill. He will post the .STL code if any members desire it. A quick look at Turner's cubes on Google gives a nice history of these devices and how to make them on manual lathes as well as on CNC machines. Several nice videos on You Tube are also useful to review. Mike also described his adventures on making valves. He followed Mike and Dwight's advice and had a good result.



Peter Lawrence gave us a less than glowing product review on a Husky compressor. The piston went south, and it was impossible to disassemble or repair it. He also described the process of making water and oil pumps or distributors for our little engines. They take a lot more time and effort than one would suspect, he tells us.



Paul Denham again ran his Atkinson engine for us to a nice round of applause.

Wes Wagon offered an electronic calculator for machinists, to be auctioned. It went for \$30.00

donated to the club treasury (which by the way, is doing well).

Members, please send your updated e-mail addresses to Paul if they have been changed.

Gene Ellerbusch strongly recommends a visit to “Sturgeon’s Mill” in Sebastopol for steam enthusiasts. This is a lovingly restored old steam powered sawmill that should be a natural for our group. They only demonstrate four times a year. See their web site for the dates, only three left this year. The address is: 2150 Green Hill Rd., Sebastopol 95472 (between Graton Rd. and Occidental Rd.). There is a variety of listings, newspaper stories, Yelp reviews, etc. on Google. Recommended is the You Tube video simply titled: “Sturgeon’s Mill-Sebastopol, CA”. Thanks, Gene.

The meeting was adjourned and a goodly number of members left to attend the memorial service for George and Leona Gravatt in Napa. George was a stalwart member of BAEM, a man of constant good cheer and integrity. His ingenuity and versatility was phenomenal. Who else developed several totally original and ingenious engines as well as machining a number of classic engines? These included Palmer’s J & E Junior, a Vaughn, a Gallagher, an Upshur Farm Engine, a Novo, and several Bob Shore designs. George gave a great deal of time to restoring engines to be auctioned for the club treasury, without any fanfare. His qualities of friendship, modesty, and loyalty were remarkable.

FOR SALE

My extensive foundry is for sale. Petrobond sand, #10 crucibles and furnace, flasks, small muller and too much other stuff to list. This will be sold complete, no piecing out, for \$500.

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