

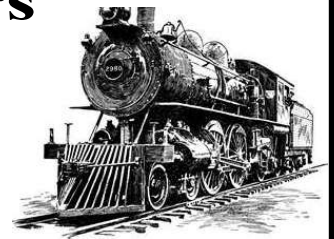


# Maricopa Live Steamers

## STACK TALK

April 1, 2017

The official newsletter of the Adobe Mountain Railroad in Phoenix, Arizona, Operated by the Maricopa Live Steamers Railroad Heritage Preservation Society.



### President's Message

The 2017 Spring Meet is over and I believe everyone had a good time. I only had to get the tractor out once to pick up one steam engine over the four day event. The switch was partly open and the engineer couldn't stop in time. Luckily there was no damage to the switch or engine. 5 MPH on our railroad is a good policy to follow. Thank you all for helping to keep the meet running smoothly.

Just a reminder that if you shop at Fry's grocery store or Amazon we get a donation from them. You need to register with them. With Fry's, you need to register every year. At Amazon it's called Smile Amazon.

Lots of things have been installed or in the planning stage at the park. Fencing is going up along Johnson Way. A cement foundation for a taller antenna (thanks to Bill Pardee) for our radios and Wi-Fi is being dug, and more sidewalks, and a new pavilion for birthday parties has been approved. Weeding around the park is a continuous chore. Thanks to a lot of people that are coming out and helping with some of these chores. We could still use a lot more people to help.

For those of you that have a container - you need to keep the weeds in check and keep the container false fronts repaired.

West Warner return loop is being repaired as I write this and a new bridge installed west of Wilson Bridge.

The parking lot has been repaired to the tune of over \$4000.00. Please keep your speed down to 3 MPH.

Mick Janzen's husband had a very tragic accident while Mick was at work. He died in the backyard pool. His funeral will be at the National Memorial Cemetery on Wednesday April 12 at 2:30 PM followed by a celebration of his life at Mick's home-- 15618 N. 60th St. Scottsdale AZ 85254. If you wish to see the location within the cemetery go to [www.va.gov/daily](http://www.va.gov/daily) burial schedule.



Great weather and spring flowers for the Spring Meet.  
(We just call them weeds), but they were a sight!

I was at the park Thursday, March 27 and came across a 30 inch long Diamond-back going across the repaired parking lot. If you see tourists walking around in the weeds, please warn them of the danger of snakes lurking in the weeds and anywhere else in the park.

Safely First. That is your main job. Keep yourself hydrated and watch for those pesky snakes.

Perry

**2017  
MLS Board of  
Directors**

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**Pete Pennarts**  
Vice President

**Bob Douglas**  
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**Mike Lewandowski**  
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**Mick Janzen**  
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Superintendent

**Terry Liesegang**  
Road Signal  
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Boiler Inspector

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Web Master

**Jim Zimmerman**  
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Card Administrator

**Sandy Rauperstrauch**  
Stack Talk Editor

**Calendar of Events**

**April 2017**

**Public Runs                      Sunday, April 2                      12:00 PM - 4:30 PM**

**Board meeting and General meeting: Saturday, April 8 - 12:00 noon**  
**(Meetings are now back to back starting with closed session of board meeting.)**

**Holiday Light Meeting      Saturday, April 8                      10:30 AM (see pg 7)**

**Public Runs                      Sunday, April 9                      12:00 PM - 4:30 PM**

**Public Runs      **EASTER**      Sunday, April 16                      12:00 PM - 4:30 PM**

**Public Runs                      Sunday, April, 23                      12:00 PM - 4:30 PM**

**Public Runs                      Sunday, April, 30                      12:00 PM - 4:30 PM**

**Every Saturday is a Work Day starting at 7:00 AM**  
**Your help is always appreciated.**

**Come out and join a train crew - new people are more than welcome.**

Abbreviated Minutes from  
March 11 Board meeting and  
General Meeting

Board meeting began at 12:00 pm - closed session followed by general meeting.  
General meeting began at 12:30 pm.

Superintendent's reports:

Tower, Greg Gorman - All is good - no Century Link Wi-Fi  
Boiler Inspector, Bill Pardee - New pump works great!  
Maintenance of Way, Joe Schnyder - Venders area concrete has been OKd.  
Parking lot repave \$12,500 will be split 3 ways. Added to project list  
Rossow's Roost almost done. West Warner is still out.

Construction, Cliff Fought - 9 items completed  
Operations, Hank Gallo - Hold off on Jr engineering.

Old Business:

Hank is writing process and procedures for pulling the public. Tabled

New Business:

Engineers test allows for 92% passing grade. (4 missed)  
New tunnel discussion was tabled.  
Buy 1 new tablet for concession stand- approved  
No drones, rockets, aircraft or balloons in the park.  
Public passenger drops something off a train, they must hold their hand up.  
Still need crews for all public runs.  
Gabe wants to amend by-laws - tabled.  
When AMRS has a swap meet, all who enter, please pay- no exceptions.  
Answer selection on Engineers Test to be rewritten for question #30.

Sandy Rauperstrauch, Stack Talk editor, requests articles of interest and any photos for Stack Talk to be used (at editor's discretion) submitted in a timely manner **before the last week of the month** to allow for formatting in the newsletter.



## Safety at MLS

from Pete Pennarts

**Safety is the # 1 priority on the MLS Train Park.**  
**PLEASE READ AND REMEMBER!**  
 The safety items listed below are taken from the  
**MLS Safety and Operating Rules.**

**Section 2 - Item 220.1:** Members structures (known as metal containers, custom built sheds or dog houses) can only be placed on MLS site locations that are approved by the Long Range Planning committee (LRPC). Special installations permits may be required from the City of Phoenix.

**Section 2 - Item 220.5:** Owner is responsible to maintain the area around the structure and to the right of the structure to be free of all debris and weeds.

**Section 5 - Item 514:** Engineers shall not allow anyone to ride between themselves and the controls of their engine so as to restrict their ability to control the train.

**Section 5 - Item 518:** Certified engineers 13 through 17 years of age may operate a train on MLS mainline track during the time that a public train is operating on that track.

**Section 5 - Item 519:** Certified engineers under 13 years of age may not operate a train on MLS mainline track during the time that a public train is operating on that track.

**Section 5 - Item 520:** When operating MLS equipment, a junior member shall be supervised by a certified adult member.

**Section 5 - Item 531:** All trains shall be operated by or under the direct supervision of a certified engineer. The supervising engineer shall either be on the train and able to take control of it, or close enough beside the train to give verbal instructions and otherwise assist as necessary.

**If you do not have a copy of the  
MLS Safety and Operating Rules**

**see Pete Pennarts or Bob Douglas to get a copy. It is important reading.**

These 3 photos were taken Thursday 3/30, so Perry is serious when he says to keep an eye out for snakes.



First to cross the new paving!





## VALVE GEAR

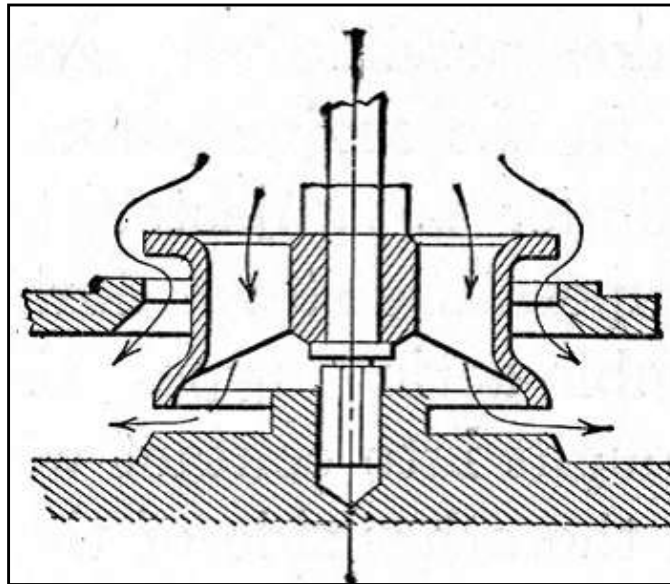
from Dave Griner

Well, we're really headed into Spring, and time for the final discussion on valve gear. To finish up, we need to look at the mechanism that provides motion for poppet valves.

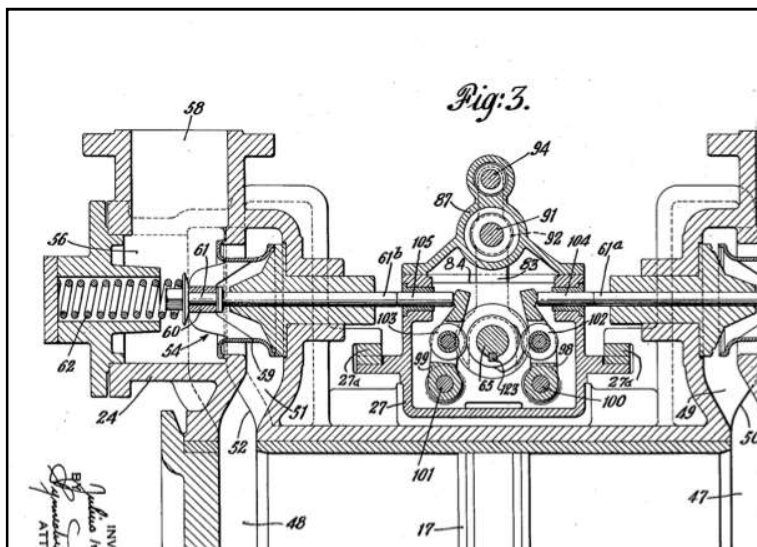
First, we need to understand how the poppet valve operates. The diagram shown below is a cross section of the valve proper, as invented by Mr. Lentz.

(Hugo Lentz (1859–1944) was an [Austrian mechanical engineer](#), born in [South Africa](#). He was the inventor of many award-winning improvements to the [steam engine](#). The correct spelling of his name is Lenz but it has been [Anglicised](#) to Lentz in English-speaking countries. From 1907, [Davey, Paxman & Co.](#), [3] and later the Erie City Iron Works (ECIW) in [Pennsylvania](#) built Lentz's steam engines. In total, Lentz acquired some 2000 patents. He is best known for his steam [valve gear](#) with oscillating and rotating cams to actuate [poppet valves](#).) Just a bit of trivia, I worked for ECIW, and no, wasn't there during his time !!

Seen clearly this is a double seat valve, attached to the valve stem, and yes it has a striking similarity to those valves found in our internal combustion engines.

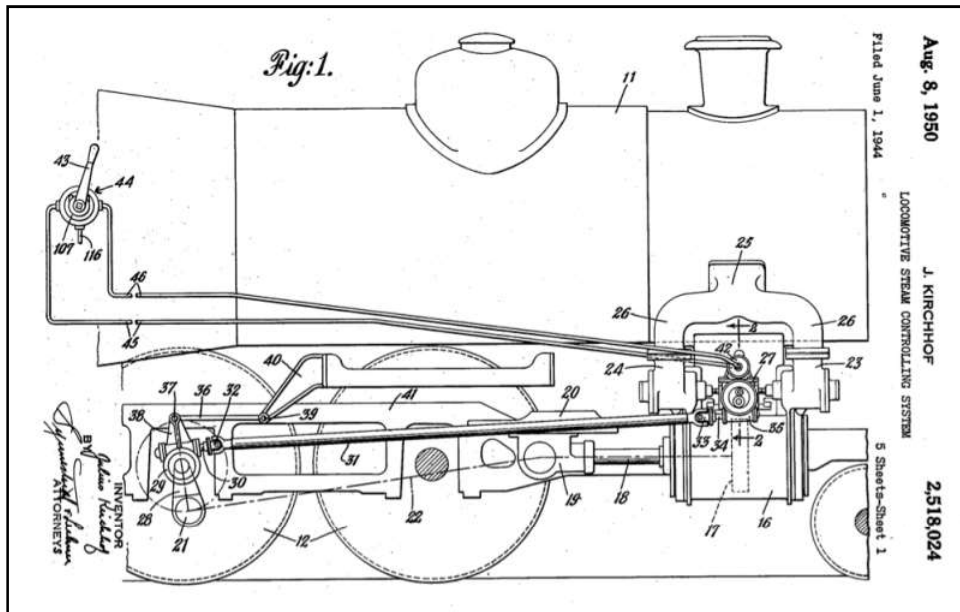
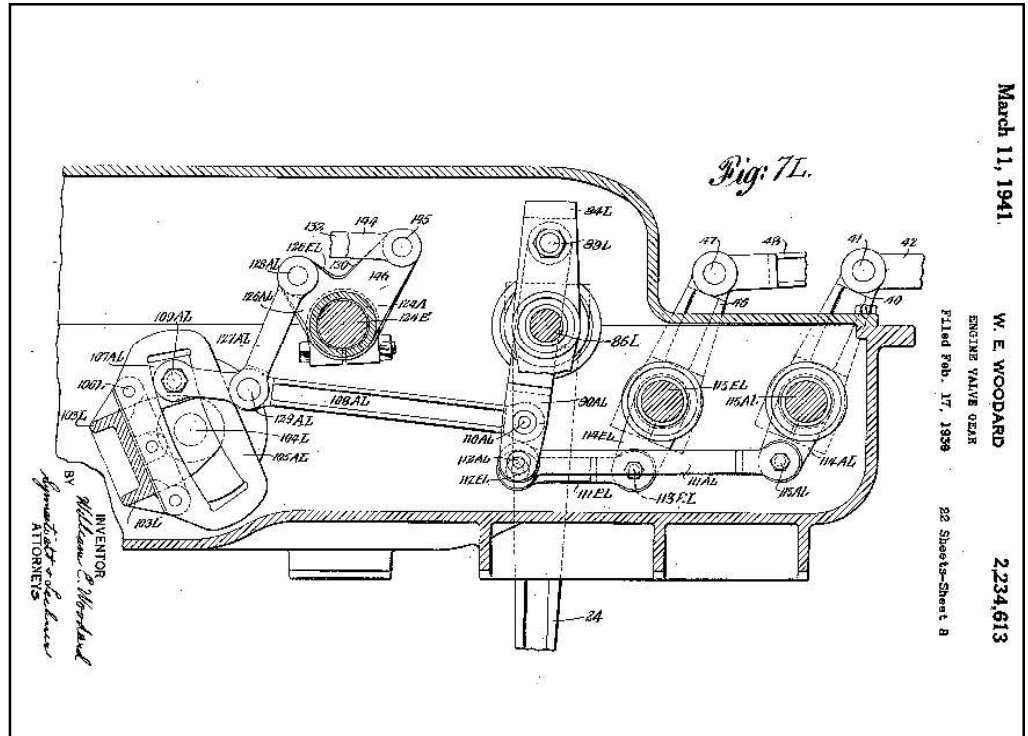


There are two types of this gear, oscillating and rotary, which indicates how the valves are actuated.



This drawing shows how those valves are applied to our locomotive cylinders. Typically, there are four valves per cylinder, with two valves in cross section, the other two will be directly behind them.

The rotary set up uses worm gears driven from the main driver to furnish constant rotating motion to the cam shaft (as noted in the drawing below). Cut-off and direction change is derived from the profile of the cam where the cam slides sideways on the cam shaft.



Of the two types, the rotary was better due to being more simplistic and easier to maintain. On the PRR T1's the oscillating type was known for being very difficult to work on due to the cam box being located between the frames (picture working on that!!). The rotary set up was used on quite a few railways world wide, in particular, the South African Railway (ref. class SAR 16E). The poppet valve came at the very end of steam in this country, hence, suffering from a loss of interest by the railways in advancing new steam technologies. In the end, it would not have prevented the demise of steam anyway.....oh well!

Thank you and take care,  
Dave



# EVENTS!

## MLS Spring Meet 2017



Early morning quiet, but it didn't take long for engines to start running.



Every steam up bay was full which included a few cars and engines for sale.



We were able to get a rare view of Jim Zim's train.



A 1.5" Berkshire and a 1.5" Northern, both coal fired and ready to roll.



Bill Cobb's Alco PA was one striking locomotive with a great sound system.



You couldn't miss "Phillip" from Colorado's narrow gauge car being pulled by Dakota's body-less switcher loco (which will eventually have a Lego body). That was a sight going around the RR.





It was a good time seeing members and their engines from out of state, and some local engines we don't see very often. Thanks to the kitchen staff, (mostly Belinda and Donna) and Joe and Dave at the BBQ for some pretty good chow! Thanks to all who helped make this happen. Bob Douglas stays pretty busy too.

**Model T cars visit the MLS Spring Meet**



New member Rich Moch also belongs to the Sun Country Model "T" Club. From left, Rich's model T pick up, and belonging to other members, 2 speeders, and a 4 door sedan.



Thanks Perry, Hank, Pete, Jon Drafts, Dave K for the photos.



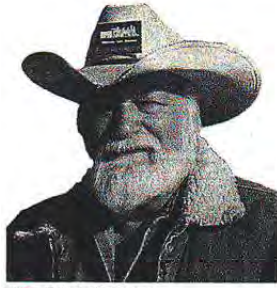
**ANNOUNCEMENTS!**

**Holiday Lights Committee**

The first Committee meeting will be held at Ford Station on Saturday, April 8, 2017 at 10:30 AM

Anyone wishing to join are welcome. If you cannot attend and would like to join The Holiday Lights Committee, please contact me at [MLights@cox.net](mailto:MLights@cox.net)

Thank you,  
Joe Kalisak, Holiday Lights Committee Chairman



**FROM THE  
SUPERINTENDENT  
AL FORD**

### **A Page from History!**

Al Ford tells where the West Warner names came from in the **MLS March 2004 Stack Talk**.

The extension of the Werner Sub-division is underway and I think it's about time that I explain where the names of the towns that the railroad passes through came from. Traveling west from Arntchoo Crossing the first town we come to is Cobbs Canyon.

Back in 1860 Elias Cobb camped here during his trek to Prescott Valley from his ancestral home in Atlanta, Georgia.

Now Elias was not a wealthy man and started his journey with just enough food for the trip. After having been delayed crossing the mountains in New Mexico, his supply of eatments was getting dangerously low. Just as Elias, his wife and 14 children were about to go to bed hungry, some friendly local Indians passed by with a lot of extra maize (corn to you easterners) and offered to share it with the Cobbs clan. The children were very hungry and the unused inner portions of the corn plant soon piled up in large heaps. Next morning when it was time to leave, Elias had to shovel his way out of a large mountain of uneaten corn parts. The friendly Indians were so impressed by the amount of corn that the 14 children had eaten that they decided to name the the uneaten center of the plant in honor of Elias. Hence the "corn cobb" (the second "b" was dropped after a few years) and the deep path through the stuff was called Cobb Canyon.

Next we pass Hurst Switch, where a short branch leaves the main line and runs up into the "Hurst Hills" where the Hurst Hills and Zak Mines are located. Zebadiah Hurst was a scrungy old prospector that traveled all through the hills of this area looking for the mother lode. Zebadiah and his sidekick "Zak" did eventually dig enough gold to become very wealthy and bribed the local government officials to name this whole area the Hurst Hills.

Next is the town of Little Bug. Ezekiel Osband, a surveyor for the railroad, while looking for a pass through the Hurst Hills, became hopelessly lost and was about to die of thirst. While lying on the ground expiring, he claimed a small talking insect walked by and told him the way to a nearby hidden spring (yeah, we believe that!). Ezekiel founded a small town around the spring and named it to honor the small creature that he claims saved his life. Little Bug.

Forty miles west of Little Bug is Reynolds. Ellie Mae and Boregard Reynolds searched for years for gold in this area, but found aluminum instead. Just outside of the town is the largest Reynolds aluminum mine in the southwest, that will produce much revenue for the Adobe Western Railroad. Rumor has it that the Reynolds Company is grading out a flat spot that some have called a runway. They claim that someone back east has invented a boxcar that has wings and flys through the air. (yeah, we believe that too!).

The end of the Sub-division is planned to be the town of Rossows Roost. The Rossow family owns and operates the largest rattlesnake egg factory in town. The eggs are world renown for both uniformity and taste. They are perfectly round, white, although sometimes other colors show up, and are covered with small dimples. I've heard it said that someone has invented a game where you take a long stick, with a rock tied on the end and bash the little egg all around trying to knock in back into the snake hole that it probably came out of. I really don't think that game will catch on, but the factory ships 8 boxcars full of the little rattlesnake eggs a week, which keeps the town well funded.

As of this writing the Adobe Western tracks have reached the outskirts of Reynolds and it won't be too long before the Sub-division is finished. Many people are working very hard on this project. Please remember to say thanks.

Adobe Al

Thanks Hank, for sending this article.





## FIRING A STEAM ENGINE

By John Lovely

What is the most important job on a train? Is it the Conductor, Engineer, Brakeman, or Fireman? Would you believe: all the above? Each has specific duties, but GCOR 1.47, “The conductor and the engineer are responsible for the safety and protection of their train and observance of the rules.” It goes on to say the conductor is the supervisor of the train crew and the engineer is responsible for operating the engine safely and efficiently. Section C states that ALL crew members are jointly and severally responsible for safe movement of the train. Rule 6.22: Crew members must be aware of train speed and operating conditions and take immediate action to bring the train under control. 6.31: All crew members are responsible for knowing and not exceeding maximum authorized [and safe] speed for that section of track. Persons working in the controlling cab of the engine have an extra responsibility to see that the engineer is conforming to safe working conditions. So, what does this have to do with firing a steam engine? I’m glad you asked.

At Grand Canyon Railway, we have two people in the cab – engineer and fireman. The conductor is back in the train with the people serving two important functions: supervising the train operation and customer relations. The engineer’s job seems self-explanatory – run the engine safely, controlling slack action to not spill the passengers nor their drinks. (Remember Tootle – not spilling the soup in the diner?) But what does the fireman do on a diesel? My main job is communication: track warrants and reporting our position to the dispatcher. I also help watch the track for defects and obstructions (cattle on or close to the tracks). We also cross call crossings and switches. My second job is to be sure the engineer is controlling the speed of the train. No, I can’t tell him/her to speed up, but I must be sure they comply with the many speed restrictions on our line. I also serve as brakeman at the canyon, helping passengers on/off the train, making cuts and joints, and tying hand brakes to be sure the train stays put while we are on lunch break. And if we need to flag our train, I become the flagman unless we have a brakeman.

The steam fireman on the other hand, needs to work hand-in-hand with the engineer. It is like playing “two hands” piano. During my cab ride on #29 the other day, the engineer would tell the fireman each change in throttle he planned to make, “out one, out two, in two (notches).” At each change the fireman would adjust the firing valve, atomizer, blower, and damper controls. He also kept a close watch on the water level. Since the feed water pump sprung a leak during the trip, he had only the injector. It seemed he was constantly turning it on and off. I also noticed that after each filling, he would blow down (open the drain valve) on the water glass for a second or two to be sure the gauge was reading correctly. All this activity was in addition to the tasks I do on the diesels.

I have heard there are “low water” firemen and “high water” fireman, and probably “just right” firemen. Running with the water level low in the glass gives more headroom for steam. High water provides a better safety factor, but adds the danger of getting water into the cylinders. One steam savvy person told me a steam engineer needs to run one mile ahead, but the fireman needs to plan two miles ahead.

Putting cold water into the boiler is going to kill your steam. The injector does warm the water some, maybe up to 100°. Axle and mechanical pumps put cold water in without a feedwater heater system. I am learning that I need to regularly inject small amounts of water to not kill my steam, since I am running only 2 gallons in the boiler. With larger boilers you have more leeway, but probably also need to keep ahead of the game. I don't know how much water was injected each time on #29, but he was working with a 400-gallon boiler. Our 2 – 4-gallons seems to suggest frequent short bursts of water.

What about controlling the fire? On my engine, I have a pressure regulator where steam pressure cuts off the main fire at 100#. I also have a pilot burner that keeps some heat going and will pop the safety's when I am stopped for a length of time. (See Jesse Livingston, "Gas Burner Regulator", Live Steam and Outdoor Railroading, March/April 2007, pp 36-38.) The only problem is this system is reactive like cruise control on your car. I have noticed that pressure will drop to about 80# before I get full fire again. It gives me a few more seconds to be engineer and watch little things like signals and switches, but I do need to watch my steam use closely. With manual control of the fire you can be proactive and get the fire up before the hill and/or adding water.

And we still have the mater of draft. I have added some restrictive plates to my burner manifold to cut down the air flow and noticed some improvement in keeping steam. But, I think I still need a lot of work in that area. I would like to hear from some of you who have manual fire controls and how you handle them during your runs.

Is the fireman the most important crew member? Happy Steaming everyone.

John

## *Did You Know?*

**The MLS Concession Stand has Polo Shirts, Tee Shirts, and Hats available with the MLS logo.**

Talk to Sandy Grundy to see what they have. Polo shirts can be ordered individually for color, style, and length.



*Myrna Brooks and Sandy Grundy*





# Boy Scouts Event at MLS

## March 24th - 26th 2017

The Thunderbird District of the Boy Scouts of America held their 27th annual WEBELOS crossover, along with the LDS eleven year old encampment at our park.

This event was set up and run by our very own Troop 526 (MLS is the Charter Organization for this troop.)



We had over 200 scouts and leaders camp at the park on Friday night and over 300 that Saturday taking part in the activ-



There were seven stations set up around East Werner and the Adobe City area. The scouts rotated from one station to the next, and some of this rotation was done by train. (Thank You to the members that ran trains all day for this event.)



This activity is to help new scouts earn some of the requirements for their badges.



Leaders did a great job organizing and preparing food. This is one food line. We had over 200 scouts and leaders camp at the park on Friday night and over 300 that Saturday taking part in the activities.

Thanks Jim Brown for the photos

MLS 2017 PROJECTS (updated 3/30/2017)  
 (project list are items in progress or complete - not in any order)

Install walkway fencing. **70 ft done. Need 3 more panels.**

Install stationary steam engine display pad and roof with air and power. **(Have some material)**

Vendor area concrete pad for additional picnic area. See Minutes. **Getting bids.**

Arntchoo Junction generator pad/building. **(already in progress) \$300.00**

Concrete pad for west transfer table area. Getting bids.

Conduit for Mega Tree wiring. **(Have material for project)**

Camera on Wilson Bridge. **Done but needs to be wired.**

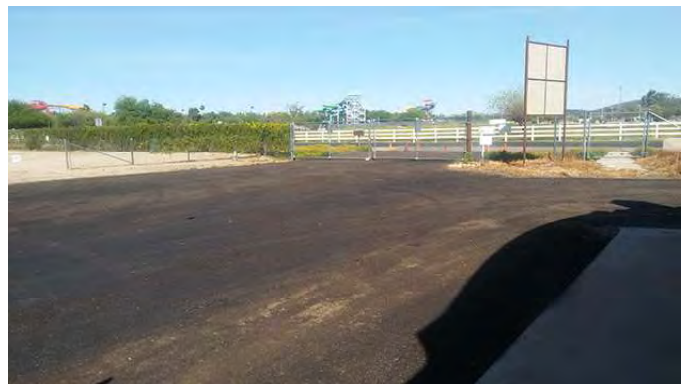
Gutter for station. Done

Driveway reseal and relined **(cost \$12,500.00, split 3 ways) Done - 2nd phase in progress, 3/2017**

Covers for DVD monitors. **in progress**



New West Warner Bridge



2nd phase of entrance and parking lot resurfacing.

### Seat covers for trains waiting at Pottsville Station

The club now has seat covers to be placed on our riding cars to help keep the seats cooler while passengers are visiting the museum.

They will be available and kept at the Pottsville Station in a plastic container near the track and stored in the "Speeder Shed" when the last run has ended.

These covers are not to be used to ride on. Each train crew will ensure that all covers are removed from their train prior to departing from Pottsville Station

Trish and Joe K.



**Check out the MLS website!**

**[www.maricopalivesteamers.com](http://www.maricopalivesteamers.com)**

If you have photos for the web page, send to Timothy Freeman at [tim@maricopalivesteamers.com](mailto:tim@maricopalivesteamers.com)

Questions or comments write to John Bergt at [john.bergt@maricopalivesteamers.com](mailto:john.bergt@maricopalivesteamers.com)

or to Timothy Freeman at [tim@maricopalivesteamers.com](mailto:tim@maricopalivesteamers.com)