



STACK TALK

APRIL 2015

The Official News Letter of the Adobe Mountain Railroad
Phoenix Arizona, Operated by the Maricopa Live Steamers
Railroad Heritage Preservation Society,

Summer is here and as in the years past, we ask every one to watch out for the critters that live on the park. You can never tell when you might meet one, just give them room and you should be ok, move with a stick, kick the rock before picking it up, safety first.

For all the members that did not make it out to the meet, here is a report. It was fun, there where smiling faces all over the park; weather was great, food even better. A big shout out to the cooks, for the noon meals, what a great job. The pot luck was one of the best I have seen in years!!!!!!!!!!!! I have never seen so much food in one spot, if you left hungry it was your fault.

Which Way Junction worked great; a big thank you to the members that fixed it so quickly. The club should stand up and put their hands together for all the hard work that was put into making this meet the success that it was, the track crews, switch maintenance, signal department, equipment maintenance that was done, there were a number of members on weed patrol, cleaning of the patio and tables, trash removal, accounting of all the expenses. I am sure that there are other things that I should mention, so please forgive me if I left some things out.

The club was given quite a light show after the Saturday night food fest, a preview of the holiday lights to come. If what we saw are things to come, look out, we will be the best in town. Great job, I cannot wait to see more.

I understand that the club locomotives have been moved to their new home in container #11. This was made possible by a couple of members and their welding skills, nice job. It should make getting the locomotives into service easier for all to enjoy. This now gives the club several rental tracks, see Bob Douglas if interested.



STEAM LOCOMOTIVES

DRIVING WHEELS

Hello again, one month closer to Christmas, eh!

We'll continue our discussion of driving wheels. Left off with the turn of the century (1900) where we had a basic wheel center of cast iron incorporating the counterweight. This construction was prone to cracking of the spokes and difficult to provide substantive balancing properties.

Cracking in the spokes came from three basic causes:

1. Shrinkage stress induced when the casting was poured. Envision how the wheel will contract when cooling and it clear that the spokes are very much in tension and of relatively smaller section than the rest of the wheel. this problem was eliminated by leaving small gaps in the rim in several places around the circumference, hence relieving the stress. These gaps then had filler pieces added.
2. Compressive stress developed when the tire is shrunk on with an excessive interference fit.
3. Stresses induced during use. Again envision the wheel entering a curve, this action induces a sideways load on a spoke that is already enduring shrinkage stresses, very easy to see how cracks developed.

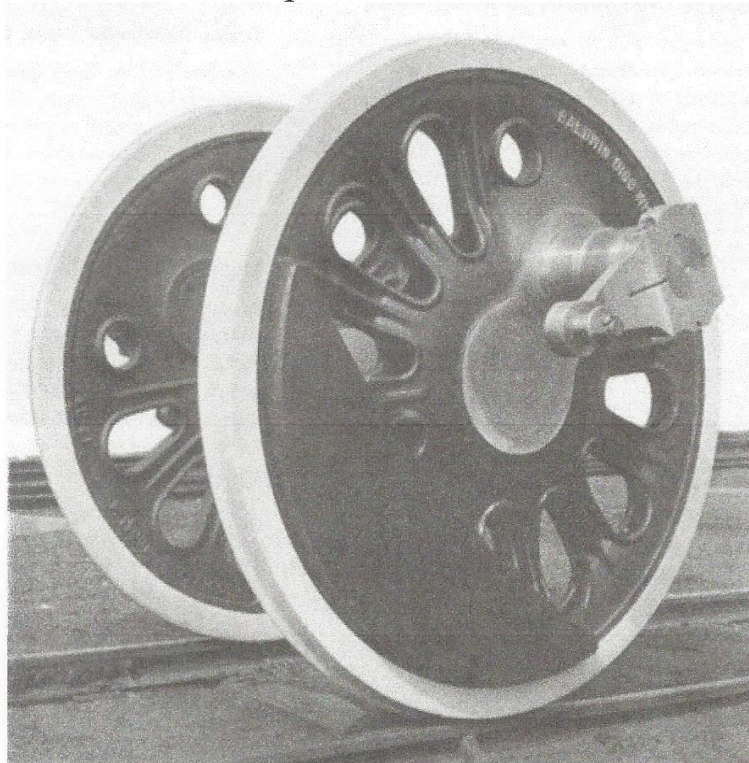
A close magnetic particle examination of almost any spoked cast iron driving wheel will reveal cracks of some magnitude, the saving grace in the problem is that the casting is, for all intents and purposes, held together in compression by the tire, remembering that the tire has been shrunk on the wheel casting.

With the advent of cast steel, this problem begins to decrease, but is not eliminated. It takes a different design to address the noted deficiencies.

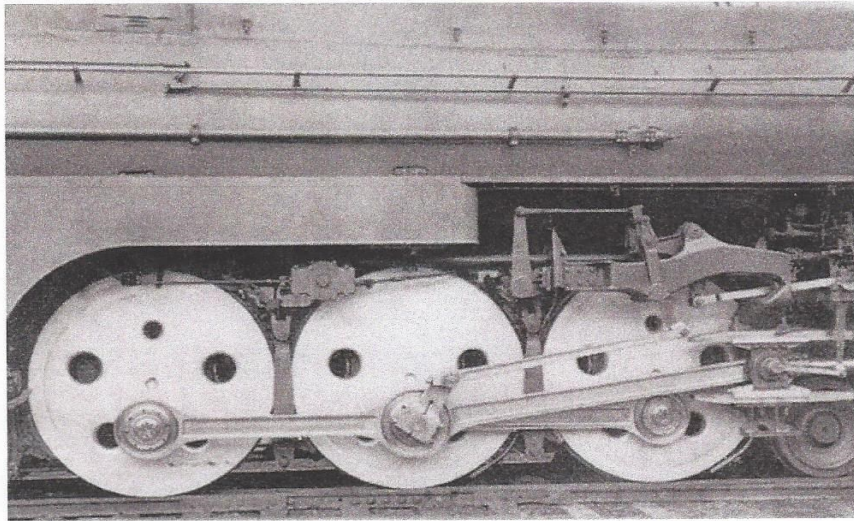


Dave Griner

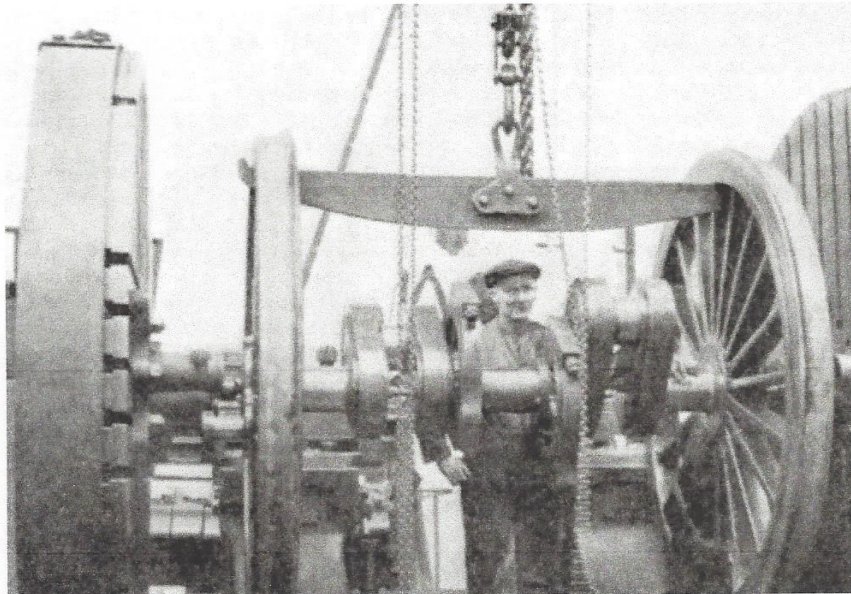
Here is an example of a different design (Boxpok) employing cast steel. As can be seen, the casting is open between the spokes, allowing a different method of relieving the contraction stresses. It should also be noted that this design provides a much different method of distributing the side and tire compression stresses.



Here is a variation on the theme as presented by the Baldwin Locomotive Works. It might be noted that they have enhanced the ability of the casting to distribute the side loading by adding strengthening ribs to the spokes. This one is quite likely the main driver (suspect on a Santa Fe 2900 or 5000) as the counterweight is massive. A fine example of the builders art.



Yet another variation developed by the Scullin Steel Co., and applied to a NYC, streamlined 4-6-4, giving a much cleaner look to the whole wheel center, yet employing all of the aspects found to be of value in a more modern design.



And finally, here is a set of driving wheels being machined in a wheel lathe. This picture is from England, but hey, aside from the crank axle, they all look alike !! Wonder how many sets the old fellow has done in his time?

On a slightly higher intellectual level, the question has been asked why a round wheel is better than a square one?
Well, certainly a round one is easier to machine along with smoother riding qualities, which further supports the adage that --"the wheels on the train go round and round.....!!
Bye,take care,
Dave

*The club loco storage was moved on **March 25th** from container #1 (by Ford Patio) to container # 11 (West of the OLD switch barn/ new maintenance shop). It still uses the club key. Each track is numbered for the loco that is stored there. This makes it faster to pass through the yard to the car barn or main line. There is a sign posted on container #1 reminding folks to visit #11.*



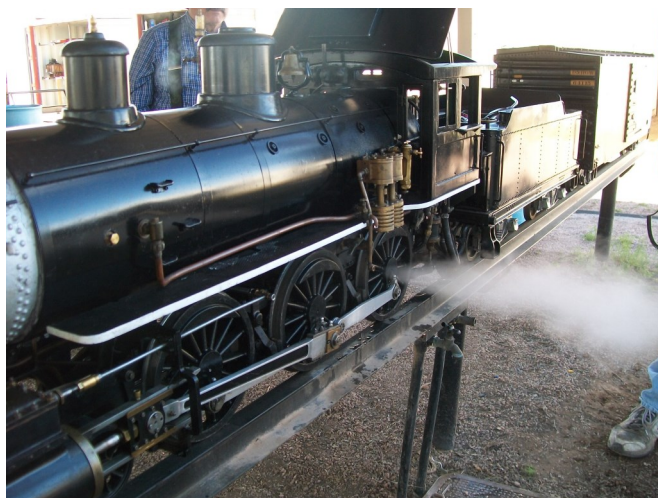
APRIL CALENDAR

April 11, 2015 Arizona For Children—AMRS Train rides MLS

April 11, 2015 MLS Board Meeting 8:00 am

April 11, 2015 MLS General Meeting 9:00 am

SPRING MEET





**OUR 2015 SPRING MEET WAS A
GREAT SUCCESS**

**NEW! STARTING THIS MONTH
FOR SALE AND WANT ADDS
MUST BE TRAIN RELATED**

Submit Adds To Jim Ashcraft, james.ashcraft@q.com

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TRACK SPACE FOR RENT
LOCATED IN CLUB CONTAINER #1
REASONABLE RATES
SEE BOB DOUGLAS
TREASURER

