

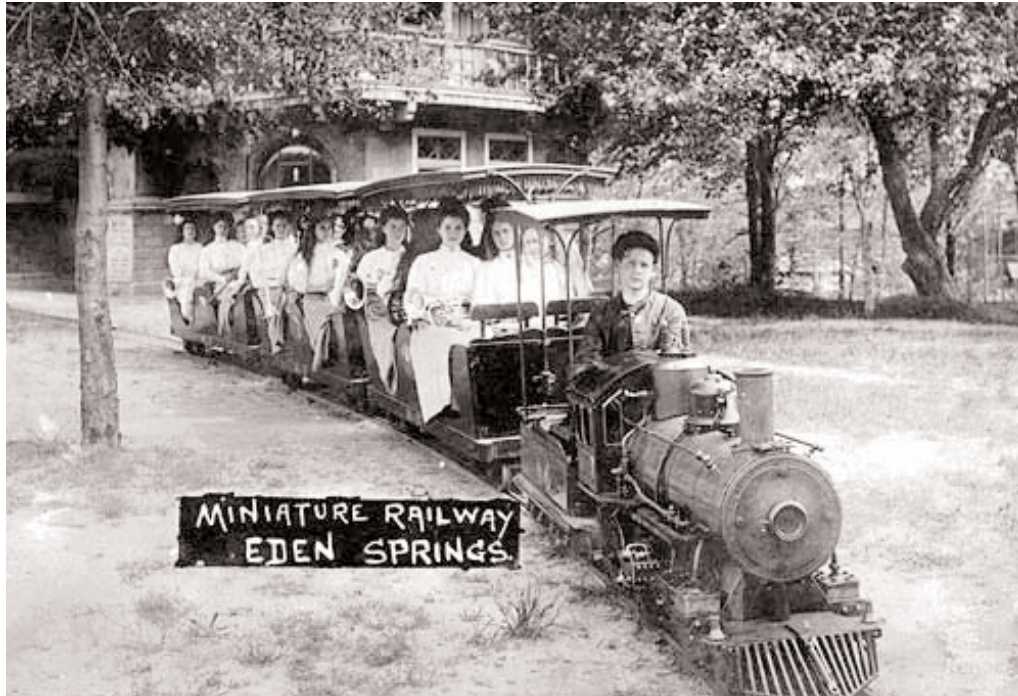


# STACK TALK

The official newsletter of the Adobe Western Railroad,  
Phoenix, Arizona, operated by the Maricopa Live Steamers  
Railroad Heritage Preservation Society  
[www.maricopalivesteamers.com](http://www.maricopalivesteamers.com)

© 2005, Maricopa Live Steamers Railroad Heritage Preservation Society

June 2005



The M&B Railroad, one of the earliest “miniature railways” in the country, was photographed in 1909 at Benton Harbor, Michigan

## News from the President



*Perry McCully*

We had a very successful season of pulling the public. Vacation can begin for those who worked hard at keeping the public safe. Track work is an on going thing. We can't stop working on the track or the park just because we stop pulling the public for the summer. There is lots of work to be done.

The clubhouse is nearing completion. We've had some inspections in the last few weeks. Failed them all but we have learned from them and hopefully we'll have them all fixed for a final inspection by next week. We have had to buy things we were hoping to buy later. This means (here it comes) we are running short of money. If you have any loose change laying around please donate it to the building fund. We've had some very nice donations come in lately.

I got an e-mail from Sahuaro Central today saying that on Saturday, August 6, from 6:30 to 10:00 a.m., there will be a 5k race in front of our railroad. Between 500 and 700 people will be running from Victory Lane Road ( which is the ball field parking lot entrance ) south then back to Victory Lane Road into the parking lot of the ball field. Please be mindful of these people.

Here are some things that are coming up: the August Ice Cream Social, Fall Meet, dues and election in that order. We had a breakfast and operational meet the other day. It was very warm out but everyone had a great time. Thanks to all who helped to make it very successful.

More things are coming together for the fall meet so watch the web site in the coming months.

It's warm out there so drink lots of water. Stay out of the tall weeds. Watch out for the fanged critters while you are working on track or your train. The county parks department has instituted a fire band in all county parks. The board has banded all steam engines from running in our park. If you smoke, please be careful where you throw your butts and matches.

Have a safe and fun summer. Happy railroading.

*Perry McCully*



Betty Jane Moore

## News from the Vice-president

Several of us have been busy cutting and raking weeds at the park. A good firebreak has been made around all of the wooden buildings. However, we still have a lot more to do. The weeds are too high and too close to the fence line. Please come out and help. This is your park and you are needed now. The fire danger is very high.

The Fall Meet Schedule has been posted on the web. There just may be a few additions shortly, so keep a look out. We are preparing for a great time. Even though October seems a long way away, time like trains moves quickly and we need to be prepared. I've already received an email from the flamingos with their return date to Fisher. It seems like they only left yesterday.

Until we meet again.

Betty Moore



Bob Douglas

## Treasurer's Notes

A great thank you goes out to all of the station and train crews who donated their time for the Public Train Rides. For the 2004-2005 season of 41 run days, 95 train crews made 646 trips and pulled 10,769 passengers.

"Remember, only you can prevent brush fires" to paraphrase a famous bear. The fire danger level at the park is listed as EXTREME. The Phoenix Fire Department has requested that we clear all dead weeds within 20 feet

of any structure. All container and train shed owners need to make sure that their areas are clear. We need volunteers to clear the weeds along the railroad right of way. The county would be grateful if we also remove the weeds along 43rd Avenue.

Please add the following members to your 2005 Roster.

New resident members  
Bruce & Nancy Foote  
Timothy Foote  
etofoecurb@yahoo.com  
2817 E. Cathy Dr.  
Gilbert AZ 85296  
602-402-4591

Bob Douglas



Stephanie Marks

## Meeting Minutes

### Maricopa Live Steamers General Membership Meeting May 14, 2005

The meeting was called to order by President, Perry McCully.

The minutes were read by Secretary, Stephanie Marks. Motion to accept by Mort Wilson, seconded by Dan Borders, motion passed.

Treasurer's report was read by Bob Douglas. Motion to accept by Dan Borders, seconded by Ken Bain, motion passed.

Motion by Bob Douglas to move \$500 to Track Maintenance, \$500 to Signal Maintenance and \$1,100 to Summer utilities, a total of \$2,100 to be committed. Seconded by Ken Bain. Motion Passed.

### Announcements

- The Phoenix Fire Department has been visiting the park. The Fire Department is very concerned with the weeds. The weeds have to be removed this month -- 20 feet around all buildings and 20 feet from the fence lines. The recommendation is to run no steam engines until the weeds are under control and there is a 3 ft clearance along the track. Discussed various options, no solutions were presented.

## Stack Talk—June 2005

Motion by Ken Bain to restrict steam engines for the summer or until the fire restrictions are lifted. Seconded by Charlie Downs, motion passed.

- The S&S Shortline Rail Road spring meet is scheduled for June 10-11
- Hank Gallo has produced more MLS business cards that are available for distribution.
- The building did not pass the electrical inspection

### Old Business

Charlie Downs read the proposed amendment to the bylaws that has been published on the web site and in the Stack Talk. Motion by Charlie Downs to approve as published, seconded by Bob Alkire, motion passed.

Ken Bain discussed the meeting with the lawyer regarding public run days. After the next Sunday run, we are closed for the summer. We have the summer months to decide what to do. Mike is meeting with the insurance company to look at other options that would not include an umbrella policy.

There was a great deal of discussion regarding public runs and how we can reduce the clubs risk and liability exposure. The county requires us to be open to the public for viewing, rides are not required. More members are needed to support the club and the work that goes along with having an organization like MLS. Help is needed in track repair, signal maintenance, club projects, weed control and public runs. Many people enjoy using the club facilities, however very few come out and help to maintain it. We have to start looking for ways to get members more involved.

### New Business

The Operations Day is scheduled for Saturday, May 21. We will also be serving breakfast that morning to any who would like to come. Breakfast is at 7:00 and the operations beginning at 8:00

Bill Pardee received four signs that were donated to the park. Suggestions will be taken on where to display them.

The Boy Scouts will be here in June. Specific dates to follow.

No additional parties will be scheduled this season.

Motion to adjourn by Charlie Downs, seconded by Ken Bain. Motion passed.

# The Handling of Mallet Articulated Locomotives

The  
Baldwin Locomotive Works  
1912

The handling of a Mallet articulated locomotive presents no special difficulties. As the high and low-pressure engines each operate like a single expansion locomotive, it is unnecessary to introduce complicated features because of the application of the compound principle. In order to enable the locomotive to develop full power at starting, it is necessary to provide means for admitting steam direct from the boiler to the low-pressure cylinders. In the Baldwin engine, a small pipe is run from a starting valve in the cab, to the receiver pipe connecting the high and low-pressure cylinders. By opening the starting valve, steam will pass direct from the boiler to the receiver pipe and thence to the low-pressure cylinders, and the locomotive will develop a tractive force up to the limit of its adhesion. This device is recommended because of its simplicity and reliability in service.

The flexible pipes which convey the steam from the high to the low-pressure cylinders, and from the latter to the smoke-box, should frequently be inspected and tested for leakage; as it is important that the ball and slip joints be kept tight. The sliding bearings supporting the boiler on the front frames should be regularly oiled; also the hinge pin connecting the front and rear frames, and the joint in the reach rod connecting the front and back reverse shafts. This joint as usually arranged on Mallet locomotives built by The Baldwin Locomotive Works, is provided with a crosshead, which is placed between the inner walls of the high-pressure cylinder saddle; and is so arranged that the reach rod can accommodate itself to the swing of the front frames when the engine is traversing curves.

Reference has been previously made to the separable type of boiler used on large Mallet locomotives. A boiler of this type should be fed in the same manner as one of the ordinary design, as water is simply forced over from the feed-water heater to the



evaporating section when the injectors are in operation. The temperature of the feed-water is raised to about 250 degrees; hence a certain amount of scale, depending upon the quality of the water, will be deposited in the heater, with a corresponding reduction in the quantity deposited in the boiler. The heater, therefore, should be cleaned at regular intervals.

In a long boiler of this type the smoke-box gases are comparatively cool, tests having shown temperatures approximating 450 degrees. The result is a relatively high boiler efficiency, due to the large amount of heat absorbed by the water before the gases escape up the stack.

The high-pressure cylinders of a Mallet articulated locomotive are lubricated from the cab in the usual manner. The low-pressure cylinders may be lubricated in the same way, through flexible pipes. Another method, which has proved convenient and satisfactory, is to use a pair of force feed oil pumps, which are driven from the valve motion of the front engine. Flexible piping is thus dispensed with. In a similar way, the front group of driving wheels can be supplied with sand from a box placed over the forward deck plate, and the sand delivered to the rails through rigid pipes. Pneumatically operated cylinder cocks are frequently used on the low-pressure cylinders, and the cylinder cock rigging is simplified by this arrangement.

Before starting a Mallet locomotive on a trip, care should be taken that the air pressure is fully pumped up, and that the valve admitting air from the main reservoir to the cylinder of the power reverse, is open. The

sliding bearings under the boiler and the pin of the articulated frame connection, also the reach rod, should be inspected and properly lubricated. The receiver pipe between the high and low-pressure cylinders can be tested for leakage by opening the starting valve while the engine is standing with brakes set. The joints in the pipes are provided with glands for taking up wear in the packing, and any leakage should receive immediate attention.

In moving the engine to its train, the cylinder cocks should be kept open as considerable condensation is liable to occur. This is especially true of the low-pressure cylinders, and in cold weather it is advisable to warm these, before starting, by keeping the starting valve open for a short time.

A proper use of the starting valve is essential in order to secure the best results when operating a locomotive of this type. If the engine is at the head end of the train and the slack can be taken up, a successful start can usually be made with the main throttle alone, as by the time the entire train is under way the low-pressure cylinders will be receiving steam and the full tractive force of the locomotive can be developed. If, however, the slack cannot be taken up, as is usually the case when the locomotive is pushing, the starting valve should be opened. As soon as the wheels have made a few revolutions, and the low-pressure cylinders are receiving steam from the high-pressure, the valve should be closed.

Attention should be given to the slipping of the driving wheels in a Mallet locomotive. If the wheels of the forward group slip frequently, while those of the rear group do not, it is

an indication that steam is leaking past the high-pressure valves, and these should be examined for blows. If the valves are in good condition, and the wheels of only one group slip, the unbalanced pressures resulting will tend to stop such slipping. Any continuous slipping can occur only in both groups of wheels simultaneously, and should be corrected by throttling the steam and using sand.

In running these locomotives, care should be taken not to attempt to operate them at too short cut-off, as this will result in very low terminal pressure. It is preferable to use a relatively long cut-off, and throttle the steam when too much power is developed. Furthermore, if the cut-off is too short, the compression resulting will cause the locomotive to ride hard. Experience will at once indicate how far the locomotive can be linked up at

any given speed, without detrimental results.

In drifting on long grades, the starting valve should be opened at intervals in order to keep the low-pressure cylinders moist; otherwise they are liable to become hot. Vacuum valves are provided on all cylinders, and by-pass valves are usually placed on piston valve cylinders, to enable the locomotive to drift freely.

Economy in fuel and water consumption results from the use of compound cylinders, and on basis of coal and water per ton-mile Mallet locomotives show a marked reduction when compared with single-expansion locomotives of ordinary types. For this reason the firing of these engines presents no special difficulties.

In the event of a breakdown on the road, any one of the four cylinders can be cut out by disconnecting

the valve gear, blocking the valve at mid-position and taking down the main rod. The engine can then be run with three cylinders. If one of the high-pressure cylinders is thus cut out, the starting valve should be left open, so that more steam is delivered to the low-pressure cylinders and additional power developed. If a high-pressure valve is broken, steam will leak into the receiver pipe and pass direct to the low-pressure cylinders. In such an event it will be necessary to throttle the steam closely in order to prevent excessive slipping of the low-pressure engine.

In all other respects, the rules applying to single expansion locomotives are applicable to the Mallet type, and the same care and attention should be given to the maintenance of the locomotives in order that satisfactory service results may be secured.

## STACK TALK

is the official newsletter of the  
Maricopa Live Steamers

Railroad Heritage Preservation Society

3142 N 62nd Street

Scottsdale AZ 85251

Editor: Charles Downs

602-326-4867

[mls@wellhealedmac.com](mailto:mls@wellhealedmac.com)

We welcome your comments,  
suggestions and submissions.



### MLS CALENDAR



The next MLS business meeting will be held at 9 a.m. on Saturday, June 11.

As many as 150 Cub Scouts will visit Adobe Western on Saturday, June 25. Crews and station help are needed at 8 a.m. Send email to Jim Brown at [lgbtrns@aol.com](mailto:lgbtrns@aol.com) if you can help.

