

September - October 2015 The LS GAZE

A newsletter of the Pennsylvania Live Steamers, Inc. SEPTEMBER-OCTOBER TOPICS: Green Signals Ahead 1 Fall Meet Thank You 2 Membership News 2 Membership Gauge 2 Donations 2 October-November Events 2

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Green Signals Ahead

many years making organizations like the track. Today that number has increased to line. Golden Gate Live Steamers (GGLS) established in 1936 one of the oldest clubs in the like an unlikely model railroader being a U.S.A. The GGLS live steam club is located in Tilden Park in Berkley, California, just across the bay from San Francisco. Their railroad is about the same size as PLS and has a nice track design, very nice looking buildings, steaming bays and station and like PLS has several track gauges on the ground. In England and Europe you life was the construction of Train Mouncan find a number of clubs that were established in the late 1800's and some of the English and German facilities are truly unbelievable.



Central Station - left, Control Tower - right

over 36 miles. Quentin might have seemed graduate of Columbia School of Law. He specialized in foreign tax law and later in the 1980's shifted his focus to formulating leading-edge technology companies. It is unfortunate that Quentin passed away on November 21, 2008, but his Obit noted that one of the proudest accomplishments of his tain.

Every three years Train Mountain hosts an signal bridge with a number of selection event called The Train Mountain Triennial. In 2015 the 7 day event was held the fourth week of June. This year 6 of us from PLS; Bruce Saylor, John Bortz Jr., Dave Johnson, Jim Stapleton, Susan Webb and myself attended the 2015 meet. The experience is very different from any other railroad I have visited. Not only is the railroad very long it also has a significant elevation change from 4200 feet above sea level at the South Meadow to 4290 feet at Central Station, 4406 feet at Ward Passing Track

is an organization Twenty-Eight years ago a man named (the highest point accessible by train) to that is just a small Quentin L. Breen purchased 2205 acres of 4780 feet at Steiger Butte, the highest point part of a very large property near the small community of on Train Mountain. A typical train trip group of people from around the globe that Chiloquin, Oregon just about 16 miles around the railroad is 5-6 hours. Pack a enjoys live steam model railroading. In my north of Klamath Falls. The purpose of his lunch and head out on the mountain and travels I have had the opportunity to visit a land purchase was to build a very, very don't pass up the opportunity to fill the fair number of live steam railroad clubs, large model railroad, a railroad he named tender at the next water stop along the railsome larger than PLS, some smaller, but Train Mountain with track spreading road. Our daily trips would leave Crisp all with their own unique features, track across a pine forest 2 miles wide by 4 Yard next to Central Station and head out layouts and property conditions. One thing miles long. In 2004 Train Mountain was to the inspection station to receive a train we all have in common are members with recognized by Guinness World Records as safety check, including confirming the the love of trains and large scale model having the "Longest Miniature Hobby safety equipment, radios and red flag berailroading. Our hobby has been around for Railroad" with 13.24 miles of 7.5" gauge fore being cleared to head out on the main



Once cleared by inspection you come to a switches (6) that set the route you have selected. Once you have a green signal you're on your way! Do to the high risk of fire only electric, gas engines and propane fueled engines were allowed up on the mountain. Both Bruce and Dave's steam engines were fired by propane so going up the mountain was not a problem.

Heading out towards the mountain requires winding your way around the yard and turntable areas and changing grade, both (Continued on page 3)

Fall Meet Thank You!

We owe a BIG THANK YOU to all who volunteered their time for the Fall Meet. Our PLS kitchen had a very successful weekend. Among those who helped with the tents and tables, set up, take down, kitchen staffing, and/or donated baked goods were: Rose Ann Wagner, Sue Borders, Walt Mensch, John Bortz, Bob Morris, Jim Gotlewski, Hank Riley, Joe Gotlewski, Paul Rice, Jim Salmons, Ginny Morris, Cathy Barker, Cheryl Godschall, Dawn Kendter, George Cooper, Steve Leatherman, Jen Schoenly, Fran Shirey, Guy Godschall, Sue Webb, Mike Moore, Ross Magee, Mary Ann Salmons, Carol Quirk, Pat Heller, Terry Weinsteiger, Lee Nonnemacher, Pete Brown, Gita Talmage, and Pat Speak.

Once again the cooking was led by Jay Shupard and Family and, as always, they did a great job. Everyone seemed to thoroughly enjoy the hamburgers and hot dogs.

Special thanks to Mary and Bruce Saylor for our macaroni salad and pickled eggs and to Barry Shapin for our baked beans

PLS also wishes to acknowledge the support of Redner's Market, Philly Pretzel Factory, and Wegman's.

PLS owes a very special thank you to Rich Poletto and Gayle Keir. Before the Fall Meet even started, they arrived to clean the bathrooms and kitchen. And they continued to spend many hours helping throughout the weekend. Again, thank you both!

> Kathy Parris, Kitchen Coordinator

2015 PLS Calendar of Events

Saturday, Oct. 17	Board of Directors Meeting - 9:30 AM
	Membership Meeting - 12:30 PM
	Fall Clean Up
	Afternoon/Evening Run*
Sunday, Oct. 25	Run Day - Members and Guests*
Sunday, Nov. 1	*Run Day Rain Date
Saturday, Nov. 14	Board of Directors Meeting - 9:30 AM
	Membership Meeting - 12:30 PM
Friday, Nov. 27	Turkey Trot Run - Gauge 1 only
	(rides not available)
Saturday, Dec. 19	Board of Directors Meeting - 9:30 AM
	Membership Meeting - 12:30 PM

Club Membership News

PLS welcomes new Associate Members Charles Leindecker, Bruce Tempone, Ronald K. Lessing, Staurt Kern, Ernest E. Miller Jr., John E. Kane, Joe O'Brien, Terry Smelser, Richard R. Martin, and Ronald Heller.

Steven Kilpatrick has applied for Regular Membership.

Donation Acknowledgements

PLS wishes to thank the estate of Al Hein for the generous contributions of shop equipment, tools, books, and magazines. Also, we thank Pat Heller for her donation in memory of Al Hein.

Membership Gauge

As of September 30, 2015 PLS has:

- **104 Regular Members**
- 218 Associate Members
- **10 Honorary Members**

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up and down passing under a highway and Different types of pines and Aspens make tracks that are headed back towards Central Station.



Dave Johnson heading towards the mountain

trees seems to be constantly changing. up many of the trees along the railroad. The ground goes from sandy to very rocky with one side of the railroad bound by a high near vertical rock wall.



Bruce and Frank filling up near top of mountain



Frank running Bruce's train - a short 5 hours



Change in grade - trains above and below

Don't forget those water stops, the next on might be a mile away and you can't make steam without water!



Caboose Ridge - steep and rocky



John arriving at Central Station with his box cab



Sue & Jim arriving at Central Station on Dave's train



Bruce and Frank smiling for the camera

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mountain

With the variation in elevation it seems you are either going uphill or downhill, and you are! The average grade is about looked at the tender trucks they were cov- the 2015 Train Mountain Triennial with ered with break dust. As you ride along many hours of running the mountain. Here change in elevation, terrain and types of are a few closing photo of our group.



an Aspen grove

1.6% and at the end of the day when I The group from PLS had a good time at

CLECO CLAMPS

Builders' friend

Bob Thomas

Cleco Clamps were mentioned briefly in the Sept/Oct 2014 *Gazette* article about Dave Sclavi's "Trainman 4602" informative videos on YouTube.¹ There are several other YouTube video clips describing use of Cleco's but none are specifically related to our hobby to the extent of Dave's.

Cleco Fasteners have had a long and honorable history since WW-II when they were used by the millions in mass production of military aircraft. Fabled "Rosie the Riveter"² used them to temporarily hold sheets of aluminum skin tightly in position against airplane frames or wing ribs while matching holes were individually drilledthrough from pre-drilled frame holes and then riveted. When all available locations had been riveted the Clecos were removed one-by-one so remaining holes could be riveted to complete the job. Period photographs show bombers during construction that looked like porcupines with Clecos sticking out all over them during assembly. Cleco Fasteners are still used for the same purpose in modern aircraft production as well as for similar operations by kit plane home builders and assembly of race car bodies.

The most obvious application for Cleco Fasteners in live steam construction is holding tender sheets in position for riveting, but they are also useful in assembly of cabs and cab roofs and for running board stiffeners and brackets. They are even more applicable to scale-like riding car construction and certainly for assistance when building exact scale freight and passenger cars as well as scale and freelance electric and diesel-type sheet metal locomotive bodies.



Figure 1 - Typical Cleco Fastner with black actuating button left and fixed guide tongue at right with locking fingers on each side

A basic Cleco Fastener, illustrated in Figure 1, consists of a hollow steel body with an actuating cap protruding from the rear and a miniature guiding/locking mechanism at the front. A spring-loaded rod passes from the actuating cap through the body directly to the locking mechanism. The powerful internal spring tends to pull the mechanism inward with considerable force. The "business end" of the assembly at the front of the body is a tiny, very clever hardened steel assembly consisting of a thin central strip, or tongue, between two outer springy fingers. The fixed tongue centers outer locking fingers in the rivet hole and controls their expansion. Ends of the outer fingers are formed so they squeeze together when extended beyond the tongue while guided through the hole, but spring outward just enough to be captured by the edge of the hole as they are pulled back by the spring and forced outward by the tongue. The tongue and fingers have to be small enough to easily pass through a small rivet hole when the actuator cap is pushed in for maximum extension of the fingers. It's easy to imagine how precisely these three parts have to be formed and heat treated so they easily slip through a 1/16" diameter hole but lock in place when the actuator cap is released. That allows the internal spring to pull the fingers back over the tongue where they expand to lock onto edges of the hole. That is the genius of Clecos!

Special inexpensive pliers make setting and removing Clecos a rapid, one-hand operation. It might be possible to struggle with make-shift standard tools but at less than \$5.00 for the real thing, that would be a foolish waste of time and effort. Cleco pliers are made of plated forged steel with a cup in the end of one jaw to engage the actuating cap and a fork in the other jaw that slips over the body to work against a raised ring, or into a slot in the body. With a fastener held in the pliers while they are squeezed, the Cleco can be rapidly guided to slip through a rivet hole where it is locked in place as described above when the pliers are loosened. A fastener can be easily removed with the pliers by squeezing them, then puling outward on the Cleco's body. That extends and relaxes the locking fingers, so instead of catching on

the edge of the hole as the Cleco is pulled out, they squeeze together just enough to slide right through the hole to free the fastener as it is pulled away.

Cleco Fasteners are made in a wide variety of styles and sizes to suit rivet hole diameters from 1/16" to 1/4" and total thickness of material from zero to one-inch. They are color coded to identify the rivet size for which they are intended. They are also available with a wing nut lock instead of a spring for use where that kind of actuation offers an advantage. An accessory vinyl boot is available to fit snugly over the bottom of the fastener body to prevent marring of delicate surfaces, such as a prepainted plate.

MSC stocks a very limited variety of Clecos at moderate cost, but none for 1/16" rivet holes. The Yard³ is a discount aircraft tool supplier that lists every style and size, of which the K-Series seems most appropriate for live steam shops. At retail prices from 42ϕ to \$1.75 each for fasteners, and less than \$5.00 for pliers, a home shop can be fully equipped for a variety of needs for a very modest investment!



Figure 2 - Cleco Clamps holding two plates for drilling through-holes

Another extremely useful tool related to Cleco's ubiquitous fastener is the Cleco Clamp, shown in Figure 2 holding two plates together in preparation for drilling through-holes. These little dandies are welcome alternatives to traditional paralleljaw clamps when it comes to holding two sheets of material together in preparation for drilling matching through-holes. They completely banish gymnastics associated with adjusting the jaws of parallel clamps! Once the plates have been juggled into alignment, the clamp is rapidly applied in a

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the time passed very quickly. It is also fair used for Cleco Fasteners, as seen in Figure to say that if you ever get the opportunity 3. When released, the spring-loaded upper to visit Train Mountain you will not be jaw clamps down on the workpieces with disappointed. It is hard to believe that the tremendous force - maybe not quite as Triennial had about 400 engines and more much as can be obtained with a screw than 2 miles of rolling stock... that's a lot clamp, but certainly more than enough to of trains. It is also hard to believe that keep the plates in alignment with no risk more than 1000 visitors also attended the of shifting. Furthermore, the profile of Triennial. The group from PLS were not Cleco Clamps is so compact there is minithe only East Coast people to bring trains mal possibility of interference with the to this event. The New Jersey Live Steamers were also well represented by Adam Madlinger, Cathy and Gary Madlinger, Tom Battle, Bill Wilson and Doug Pyatt. The funny thing is once you're out on the railroad you don't ever see the people you know, they just seem to disappear due to the size of the railroad. Even with all the trains that were running the railroad never seemed to be very busy. Train Mountain is a very nice railroad, but there is still no place like home and it's always good to get back to PLS!

See you on the PLS railroad, if not this year, then for sure when our 2016 season begins again in April.

Frank Webb - President

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It was a long week at Train Mountain, but one-hand operation with the same pliers drill chuck, sometimes a problem with conventional clamps.



Figure 3 - Setting a Cleco Clamp with special pliers

Cleco Clamps are available in four sizes with throat depths of 1/2" and 1", and maximum jaw openings of 1/2" and 3/4". ³ The Yard. http://www.yardstore.com/ One caveat though: As Dave emphasized browse.cfm/2,394.html

in his video clip, jaws of these clamps are die cast in an alloy that melts at temperatures encountered in silver soldering, and that's unfortunate because they could be a big help holding small assemblies for brazing. Nevertheless at about \$1.75 each they are inexpensive and versatile enough to make it worthwhile keeping several of each type in the toolbox.

As with many American inventions, Cleco Clamps, and especially Cleco Fasteners, embody the ingenuity and design sophistication that make them inexpensive to manufacture in vast numbers and easy to use by relatively unskilled personnel in mass production of complex assemblies. They are a valuable asset to live steam shops and above all, they helped win the war!

REFERENCES

¹ Sclavi, Dave. "How Clecos Work"- Pt. 1

https://www.youtube.com/watch? v=ruf0FJL7--M

² Graybill, Mae. "A Real Rosie"

http://www.americainwwii.com/articles/areal-rosie/



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