

Carolina Conductor



Volume 6 Number 9

Monthly Newsletter of the Carolina Railroad Heritage Association, Inc.

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Preserving the Past Active in the Present Planning for the Future

Web Site: hubcityrrmuseum.org

Facebook: Carolina Railroad Heritage Association

Meeting Site:

Woodmen of the World Bldg.

721 East Poinsett Street

Greer, SC 29651-6404

Third Friday of the Month at 7:00 pm

Hub City Railroad Museum and SOU Rwy Caboose #X3115:

Spartanburg Amtrak Station

298 Magnolia Street

Spartanburg, SC 29301-2330

Wednesday 10-2 and Saturday 10-2

Officers:

President:

David Winans - 864-963-4739

Vice-President & Secretary:

Steve Baker - 864-297-0918

Treasurer:

Marv Havens - 864-292-3852

Directors:

Lee Dobbs - 864-268-3939

Bruce Gathman - 864-850-3642

Duane Heard - 810-623-7444

Jim Hopkins - 864-859-0189

Bob Klempner - 864-431-5409

Mac McMillin - 864-624-9658

Mailing Address:

2123 Old Spartanburg Road

Suite #129

Greer, South Carolina 29650-2704

Newsletter Editor:

Bruce Gathman

shaygearhead@bellsouth.net

Articles can be submitted anytime.

4th Annual James Sheppard Photo Contest

The 4th Annual James Sheppard Photo Contest was held at the July Carolina Railroad Heritage Association regular monthly meeting. There were a record number of photos submitted by 15 members - for a total of 41 great railroad photographs. There were seven first time entrants.

Judging was done by popular voting of the members present and was tight among several of the photographs. The following pages illustrate the winners in each of the three subject categories: Other Railroad, Diesel, and Steam. (Bruce promises to stop entering with a third Best of Show next year! Ed.)



Best of Show—Bent Spike Award—Bruce Gathman

Title: *East Broad Top Turntable*

Locomotive #15 being turned on the turntable at Orbisonia, PA.

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President's Message

August Meeting

The meeting was held at 7:00pm at the Woodmen of the World Lodge in Greer on August 16, 2019. The program for the evening was presented by Dave and Anne Winans and was about the 2019



A side trip was to the TVRM and SOU #630 under steam.

NMRA Southeastern Regional Convention held in Chattanooga in June. Anne also presented a short report on activities which have taken place at the Museum, including our four summer events and the work that is proceeding at the Caboose.

September Meeting



Photo of the museum view of the NS mainline in the rain. By our speaker.

The September meeting will be held on September 20 at 7:00 pm at the Woodmen of the World Lodge in Greer. The program for the evening will be presented by member Wayne Gallman and is entitled: How to make Photographers into Railfans.

Calendar of Events

Mark your calendars for the following events:

September 13 & 14 – Trains, Trains, and More Trains, Mauldin Cultural Center

September 20, 2019 – Regular meeting at Woodmen of the World Lodge, 7:00 pm

September 21, 2019 – Picnic on the G&W RR in Belton starting at 11:00

September 28, 2019 – Greer Rail-Fest, City Hall complex, Greer

October 1, 2019 – Train Lover's Lunch, A & P Restaurant, Greer at 11:30

October 4 & 5, 2019 – Train Show at the NC Ag Center, Fletcher, NC

October 10, 2019 – Director's Meeting, Taylors Library, 6:30

October 12, 2019 – Train Show, Columbia, SC

October 26, 2019 – Train Show, Simpsonville Activity Center

November 9, 2019 – NMRA Division Meeting, Northgate Baptist Church, 633 Summit Dr., Greenville

November 22 & 23, 2019 – P 'N' S T-Trak model railroad at Taylor's Library

Caboose Renovation

Work continues on the Caboose renovation. Jim Hopkins has been welding on the metal caboose skin to seal as many potential sources of water leaks that we can locate. All wood has been removed from the walls and ceiling. Next on the agenda is the removal of all deteriorated wood in the floor. If you would like to help with the renovation, please contact Duane Heard at 810-623-7444 or Dave Winans at 864-963-4739.



Jim Hopkins welding up some of the holes in the side of the caboose.

Model Train Day

On August 17th we had a variety of model trains at the depot. The Piedmont 'N' Southern Model Train N-Scale T-TRAK layout was there.

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Wanted—Articles for the Carolina Conductor

Submit an article of 200 words or more with some photos and captions and see them in print. Every one of us has some unique railroad experience that would make interesting reading for our membership. Your editor always needs more contributions of local railway history and news.

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The Palmetto Division of the NMRA had a display and information on their organization. The

90+ degree temperatures. The crowd was slightly less that we had hoped for, but was in the 150 plus range.



Piedmont 'N' Southern Model Train layout.

Central Model Railroad and Historical Association joined us with their Dambridge Loop layout, as well as representatives from Model Trains Station.

Stephen Milley of Scale Rails Models had a table with the impressive HO craftsman kit of the Spartanburg Depot (Baggage Building) on display and for sale. Marvin Jenkins from Operation Lifesaver had a display and information on railroad safety.

Authors John Fowler and Wilson Casey were also present to talk about the railroad related books they have written. Additional tables of railroadiana, books and model trains were provided by Marv Havens, Leonard Robins and Duane Heard.

Because the event was mostly outside, we all had to endure the

Election of Directors

We will be taking nominations from the floor for Directors at the October meeting, with elections being held in November. Please give some thought to members you think should be on the Board. Before nominating someone make sure they are willing to serve. If you would like to serve on the Board, please let a current Director know, so that your name can be placed on the ballot.

Visit the Museum

Our latest Museum display is a display of glass and ceramic insulators used on telegraph and telephone pole lines. We also have an adjoining display consisting of historic communications equipment. The Hub City RR Museum is open from 10 am to 2 pm on Wednesdays and Saturdays.

August Minutes

Minutes of the August Directors' meeting are attached to the email. Thanks, Dave Winans, President 864-963-4739 dwinans4739@charter.net

Save The Date

Santa and Mrs. Claus will be at the Hub City Railroad Museum On December 21, from 11 to 1.



Santa and Mrs. Claus talking to a reluctant visitor.

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Other Railroad Category



3rd Place —Wayne Gallman

Title: *Dusk at the Depot*

Southbound manifest taken at dusk from North Church overpass.



2nd Place—Wayne Gallman

Title: *Ghost Train*

Southbound manifest from caboose deck. Three different exposures composited in computer.



First Place—Elaine Stevens

Title: *Going Through a Tunnel*

A motorcar exits a tunnel into the daylight.

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Diesel Catagory

2nd Place—Bob Klempner
First Responder Unit

1st run of CSX First responder unit on train
Q693 on Clinchfield Railroad in Chesnee.



Third Place—Steve Baker
Norfolk Southern at Thicketty
A NS manifest train crosses the Thicketty
creek bridge.



1st Place
Jamarius Gill
Triclops
A freshly
painted UP
triclops unit
on train #213
at the Spar-
tanburg
depot.

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Steam Category



2nd Place— Danny Higgins
Title: *Southern Railway Double Header*
SOU #630 and #4501 at the Tennessee Valley
Railway Museum.



3rd Place—Dave Winans
Title: *Mikado in Paducah*
On display in Paducah, KY on the way to the
NMRA convention in Kansas City.



1st Place—Steve Baker
Title:
Narrow Gauge Locomotive
Two foot gauge locomotive
coming down the track.

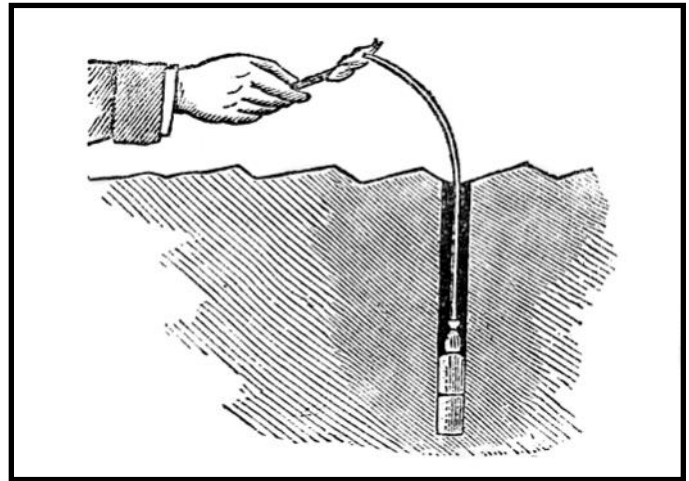
Black Powder

The Use of Black Powder and Nitroglycerine on the Transcontinental RR

The crate had been shipped by steamer from New York City to Panama, across the isthmus via railroad, and then to San Francisco by steamship. It measured two-and-a-half feet square, weighed a little over 300 pounds, and was indistinguishable from thousands of others, except that it leaked an oily substance. The question was not about what was leaking from the crate, but who was at fault for the leak. To settle the dispute, representatives from the steamship company and the consignor, Wells Fargo, met at the latter's office on Montgomery Street. A Wells Fargo employee grabbed a hammer and chisel and began to open the leaking crate. The resulting explosion a little after noon on Monday, April 16, 1866, instantly killed the workers, leveled the Wells Fargo building, and rattled buildings more than a quarter mile away.

Nitroglycerine was a new product in 1866. Discovered by Italian chemist Ascanio Sobrero in 1847 and perfected as a blasting agent by Alfred Nobel in the early 1860s, nitroglycerin was not widely known by the general public until accounts of accidental explosions like the one in San Francisco were printed in newspapers. In its pure, liquid form, the chemical was extremely volatile. On April 3, 1866, 70 crates of nitroglycerin exploded onboard the California-bound steamship *European* in Aspinwall, Panama, killing 50 people. Two weeks later the nitroglycerin explosion at the Wells Fargo office in San Francisco killed fifteen people. Two days later, six workers were killed along the Central Pacific line in the Sierra Nevadas while transporting nitroglycerin. Following the San Francisco explosion, the California legislature banned the transport of liquid nitroglycerin, forcing Central Pacific workers to exclusively use black powder as their only blasting agent.

Made from a mixture of saltpeter, charcoal and sulfur, black powder is produced by pulverizing and mixing the ingredients, then rolling and pressing the material into cakes that are then dried into explosives for specific applications. Black powder was first brought to



Detonating explosives often required workers to manually light fuses. A hole was drilled into rock and then filled with either black powder or nitroglycerin. Accidents from short fuses or unexploded charges were common.

California in the late 1840s when miners used the explosive in their search for gold. At that time there were no local factories producing black powder. The miners relied on powder shipments from eastern U.S. and European companies. As the Civil War loomed in the U.S., it became a coveted commodity and the once reliable shipments became more scarce as the North and South stockpiled black powder in the event of war. By the time the Civil War began in April 1861, miners found themselves in desperate need of explosives, and John Baird, a miner from Kentucky, recruited investors to establish the California Powder Works factory near Santa Cruz, California. Up and running by 1864, the Powder Works factory was the sole manufacturer of black powder in the state. The company employed 275 Chinese workers and within a year produced 150,000 25-pound powder kegs.

From 1866 to 1869, the Central Pacific built 15 tunnels and the Union Pacific built 4 four tunnels on the transcontinental line. The Central Pacific used black powder during most of the construction phase of the railroad, but the Summit Tunnel through the highest point of the Sierra Nevada range proved a formidable obstacle that necessitated the use of nitroglycerin.

Workers were making slow progress cutting through the granite, and engineers realized it would take well over a year to blast through from end to end using conventional methods. Nitroglycerin was needed, but state regulations prevented its transportation. To abide by

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the new laws, Central Pacific officials employed chemist James Howden to manufacture the material onsite. The glycerin and nitrate and sulfuric acids could be transported to the railroad construction site with relatively little concern for explosions. Once on site, Howden

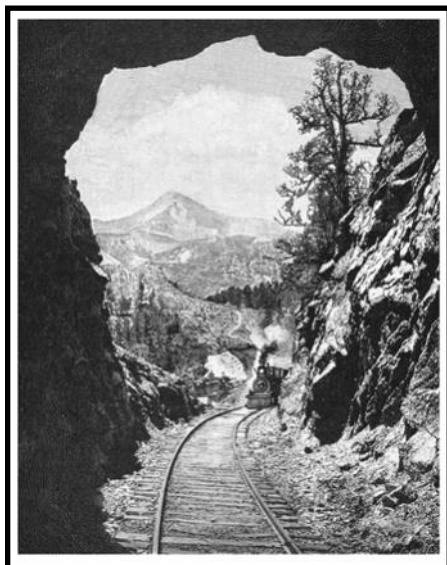
set up his nitroglycerin shop at Donner Pass and manufactured the chemical on a daily, as-needed basis. It was a simple operation. Howden, working alone, used an old kettle under a makeshift shed. The cost of manufacturing nitroglycerin was relatively cheap. Howden was able to make nitroglycerin at 75 cents per pound. At the height of construction in the Sierra Nevadas, Howden produced 100 pounds of nitroglycerin per day.

Working with explosives was dangerous business. It required drilling a hole and placing either black powder or liquid nitroglycerin in the opening and lighting a fuse. Though more dangerous than black powder, Howden's nitroglycerin enabled construction crews to rapidly advance the scale of their work. Despite the volatile nature of the chemical, construction workers found that nitroglycerin had several advantages over black powder: it required fewer and shallower holes than blasting with black powder; its debris required less clean up time;

and nitroglycerin worked when wet, unlike black powder. But its most significant advantage was its blasting power. In the Summit Tunnel, nitroglycerin enabled construction crews to increase their progress from 1.18 to 1.82 feet per day with progress in some areas at the bottom of the tunnel increasing from 2.51 to 4.38 feet per day.

A new, safer version of nitroglycerin became available in 1867 when Alfred Nobel licensed his dynamite manufacturing process to a U.S. manufacturer. In August 1867, Julius Bandmann incorporated the Giant Powder Company and began manufacturing dynamite in March 19, 1868, too late to be of use by the Central Pacific Railroad. Following the completion of the transcontinental

railroad, Howden continued his work with nitroglycerin for California Powder Works.



The 15 tunnels along the Central Pacific line required massive amounts of explosives to blast through solid granite. In addition to nitroglycerin produced on-site, crews used as many as 500 kegs of black powder a day during the construction phase.



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