

Placer-Sierra Railroad Heritage Society



www.psrhs.org

February 2022 Newsletter

In this issue:

FEBRUARY PSRHS MEETING. Page 2

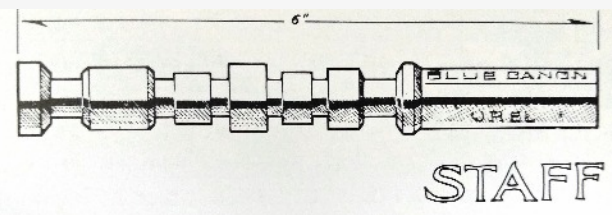
Membership Renewal Time. Page 2

SP's Staff System Explained. Page 2

Passing Scene. Page 3

From the Archives. Page 4

House of a Thousand Curves. Pages 5-6



This device played a major role in keeping rail operation safe on the Donner Route prior to double-tracking. See the notes on page 2 and the article on pages 5-6 for details on the operation of SP's Staff System.

Scheduled Events & Notices



Feb 22 PSRHS Monthly Meeting, 7PM – See page 2.
Program: Chuck Spinks and Roger Staab
PSRHS at 20 - Where We've Been and What We Are.

Mar 22 PSRHS Monthly Meeting, 7PM – Program TBA

A friendly reminder to join PSRHS or renew your membership for 2022 if you have not already done so. See page 2 for details. Thank you for supporting PSRHS and our railroad history preservation activities.

Preserving Railroad History on the Donner Pass Route



Placer-Sierra Railroad Heritage Society

February 2022 Newsletter

FEBRUARY PSRHS MEETING

Tuesday, February 22, 7PM,
Auburn Veterans Memorial Hall

PSRHS is 20!!! An organizational meeting attended by five railroad history buffs in January 2002 led to the creation of the society dedicated to preserving the history of Central/Southern Pacific's Donner Pass Route from Roseville to Truckee.

In honor of this milestone, the **February program is PSRHS at 20: Where We've Been and What We Are**, presented by current president Chuck Spinks and founding member Roger Staab. The program will feature past presentations, field trips and restoration projects experienced by PSRHS members, along with historical information, photos and publications available to members and the public on our web site.

The program will be presented live starting at 7PM at the Auburn Veterans Memorial Hall, 100 East Street. Directions to the meeting room can be found on our web site www.psrhs.org under the Happenings tab.

Program Chair Peter Diurni would like your ideas for future speakers and programs. You can email him at petediurni@hotmail.com

MEMBERSHIP RENEWAL TIME

If you have not already done so, it's time to renew your membership in PSRHS. Member dues are our primary source of revenue for PSRHS field trips, restoration projects, purchase of historic photos and publication of our monthly newsletter and other documents covering local railroad history. You can renew by check payable to PSRHS, PO Box 1776, Colfax, CA 95713, or using pay pal on our secure web site <https://www.psrhs.org/>

Thank you for your support of our PSRHS mission Preserving Railroad History on the Donner Pass Route.

SP'S STAFF SYSTEM EXPLAINED FOR CONTROLLING EARLY TRAIN MOVEMENT ON THE SINGLE-TRACK DONNER ROUTE

As detailed in John Signor's book, Donner Pass - Southern Pacific's Sierra Crossing, as rail traffic increased on the Donner Route, SP implemented the staff system of train control from Rocklin to Truckee in August 1905 on the then single-track line. It was gradually phased out and replaced by conventional signaling as the line was double-tracked starting in 1910, but the last stretch of track above Blue Canon remained under staff control until the new tunnel 41 at the summit was completed in 1925.

The staff system was easier and less expensive to implement when compared with system-wide wired signals, but it required human operators at each of the staff stations placed roughly 2-3 miles apart. This was not an added cost burden in snow country on the Donner Route since the staff operators performed double duty monitoring the snowsheds for fire or avalanches.

The staff system provided a method of controlling rail traffic on what was then a single-track line. This was accomplished with a series of interlocking devices spread along the route. Train movement was controlled by the physical presence of a staff that was placed in the hands of the engineer authorizing that train to have control of that section of track.

The article **House of a Thousand Curves** reprinted on pages 5-6 of this newsletter appeared in the April 1920 issue of Southern Pacific Bulletin, pp. 8-9. This first-person account by a staff system operator, combined with staff system information in John Signor's book, provides a good description of the Staff System design and how it worked to control train movements over Donner Pass prior to double-tracking.





Placer-Sierra Railroad Heritage Society

February 2022 Newsletter

Passing Scene – Maintenance of Way (MOW)

The image below was captured in November 2021 by Bill Yoder from our PSRHS Applegate webcam. It shows one of the latest in UP MOW equipment spotted on the Donner Route, UP980350MW, a weed spraying train. It consists of a power unit, several long-wheel-base tank cars, and a control car. The MOW unit sprays weeds along the right-of-way as it rolls over the tracks. A railfan reports that the power unit may be a modified SD-40.

The small inset photo by Roger Staab was taken on December 4th as the train passed westbound through Colfax. Weed abatement is a significant issue for railroads both in keeping the right-of-way clear and ensuring the safety of employees performing the abatement.



Amazon Smile Fund Raising

We are now part of the Amazon Smile fund raising campaign. We receive a donation to the society based on your purchases. Please feel free to copy and paste the link below and include it in all your emails.

<https://smile.amazon.com/ch/68-0488569>

From the Archives

January Mystery Photo (right): Mrs. Linda Hubbell, the first woman crossing watchman employed by Southern Pacific, is shown on her new job at the Colfax Grass Valley Street crossing in October 1942. A small shanty near the tracks was available for the crossing watchman when not directly traffic. There is evidence that crossing watchmen were employed at this crossing as early as 1915-1920. *Colfax Record*, 16 Oct. 1942, *Colfax Area Historical Society Collection*



February Mystery Photo (left): Where and when was this photo taken, which train is shown, and what major change can you see in this scene? *PSRHS Collection* courtesy of Peter Diurni

Accidents/Other Incidents. *Auburn Journal*, 8 Feb 1912 – **WRECK OF TRAIN NO. 1 – Miraculous Escape of Passengers and Trainmen** – “Four trainmen were injured, one perhaps a fatality, and the lives of seventy-five passengers were imperiled at 10:30 Monday morning when the Southern Pacific Overland Limited was derailed one mile west of Applegate. The compound Mallet engine, the combination dynamo and baggage car and the diner left the rails and piled up at the bottom of a thirty-foot embankment. The two forward sleeping cars left the tracks but remained in an upright position. The passengers were badly shaken up, but apart from minor bruises no one suffered serious injury....The cause of the derailment has not been determined, but it is believed to have been the result of a defective rail. The wreck occurred on a 6 percent grade while the train was going not more than twenty-five miles per hour. A wrecking train was sent from Sacramento ... and the tracks were cleared for resumption of traffic by 2 o'clock...”

Membership Information

Individual Members = \$25.00/yr
Each Additional Family Member = \$5.00/yr

- Monthly Meetings (4th Tuesday) and Newsletter
- Member Activities, History Pubs and Field Trips
- Display and Restoration Projects

PSRHS, P.O. Box 1776, Colfax, CA 95713
or join/renew online at <https://www.psrhs.org/>

Reader comments, additional details, etc., are invited on any newsletter items or photos. Please forward comments, suggestions or information for inclusion in future issues of the newsletter to:

roger.staab@psrhs.org



“House of a Thousand Curves”

-- Safest Spot on Earth

**By W. L. Mason
(Staff Operator at Gunter)
Southern Pacific Bulletin
April 1920**

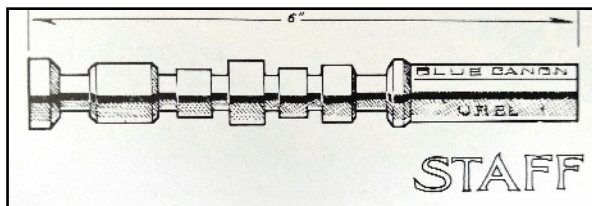
Did you ever hear of the “House of a Thousand Curves?” It is forty miles long, built on a railroad track and the safest place for a traveler in the world.

Whenever I hear people raving over the beauties of the Southern Pacific’s route over the Sierras, past the blue lakes, the snowy mountain tops, the miniature Switzerland of crags and glacial formations, I always say to them: “Have you ever given a thought to the wonderful system which makes it possible to send trains over a single track and around short curves without the slightest possibility of a collision? Think back sixteen years and you cannot recall having read or heard of one life being lost in the snowsheds through collision of trains.”

That gets them interested, whereupon I sketch briefly for them a description of the staff system which furnishes Southern Pacific passengers absolute insurance against accident while traversing the beautiful Sierras through the “House of a Thousand Curves”.

Those of you, who are not familiar with the staff system and who have the opportunity of traversing this region should look out of the window on the righthand side as the eastbound train approaches Blue Canon station. You will note a sign reading “Beginning of Staff System.”

With the approach of your train, the operator at Blue Canon has stepped up to a machine about six feet high and a foot in width. The machine has a zigzag slot containing twenty or more steel staffs, each about a half inch in diameter and ten inches long. These staffs correspond somewhat to a Yale key and are grooved so that they cannot be removed without the help of the operator at the next station. The Blue Canon operator presses a button at the lower end of the machine, which informs the operator at the next station that he proposes to take a staff out of the machine. The second operator has two staff machines, one for the station on either side. He holds the electric button connected with Blue Canon just long enough to release the staff. The two machines then become locked automatically, so that no more staffs can be removed and no more trains pass. There is only one way by which either of these machines can be unlocked. The staff that was removed from the Blue Canon machine must be replaced at the end of the block. *Text continued on next page*



Above is an example of a “staff” marked for the block between Blue Canon and Orel. At right are staff machines located at each staff station, one for the westbound block and one for eastbound. A staff is extracted from the appropriate machine and passed through a controller, locking that block and setting the signals. These images from the Southern Pacific Collection come from John Signor’s book, Donner Pass.



Placer-Sierra Railroad Heritage Society

February 2022 Newsletter

"House of a Thousand Curves", cont'd

(Back to) the operator at Blue Canon – When he takes a staff out of its place he puts it in a leather pouch attached to a steel ring about two feet in diameter and hangs it on a crane, somewhat similar to the mail crane, where the engineer may catch it as his train goes by. There is a "catcher" on the engine for this purpose.

The staff is the engineer's authority to move from one block to the next. Under no circumstances will an engineer proceed to the next block without the staff. The staff, you see, takes the place of train orders. There are staff stations all through the sheds, approximately two miles apart, where there are sidings so that opposing trains can pass one another.

As a train moves out of a station, the operator there informs the operator at the next station over the staff telephone that a train has entered his block. Then that operator repeats the process, signaling the next station in advance that he has a train coming and wishes to remove a staff from the pair of machines governing that block. This operation is repeated over and over again all the way through the sheds from staff station to staff station. The operator takes the staff that is left at his station by the train and replaces it in the machine connecting with that from which it was removed, thus synchronizing the pair, leaving that block clear for another train in either direction.

When your train is to meet another train at any one of these stations the signals in the staff office are set by the operator for one train to take the siding and one to hold main line track. If the superior train arrives first, it stops at the office and waits for the other train to get clear into the siding, and then for the operator to put staff back into the machine and replace it before the train can move on the next block.

The signals for both the eastbound and the westbound trains are located at forty feet and again at fifteen hundred feet for the switch at either side of the station. The distant one is called the "distant" signal, the other the "home" signal. When a block is clear for a train, the lights in these signals are green, showing that a train may proceed with safety. When a train is to take siding the distant signal shows yellow and the home signal shows red. All signals are made to read "clear" when a staff is hung on the crane. In order to get these signals to clear, the staff must be run through a controller which governs them. As was mentioned before the staff is grooved and as it is put through the controller it locks the signals.

In addition to the staff system, further protection is afforded by fire trains, track walkers, shed watchmen and a small army of other employees whose duty it is to get you through these forty miles of snowsheds.

In short, nothing that human ingenuity can suggest nor money pay for is neglected to make your ride both enjoyable and safe.

Insurance statistics show that you are in less danger in a railway coach than out of it, so I can truthfully say that when you leave Blue Canon, eastbound, you enter "The House of a Thousand Curves," the safest place on earth.

*From Signor,
p. 53*

STAFF SYSTEM ROCKLIN TO TRUCKEE LIST OF STAFF STATIONS AUGUST 1905								
STATIONS	DISTANCE		STATIONS	DISTANCE		STATIONS	DISTANCE	
	BETWEEN STATIONS	FROM TRUCKEE		BETWEEN STATIONS	FROM TRUCKEE		BETWEEN STATIONS	FROM TRUCKEE
DN Truckee	0.0	0.0	DN Yuba Pass	2.02	31.87	DN Colfax	2.25	65.36
T Champion	3.56	3.56	T Smart	2.76	34.63	T Lander	3.08	68.44
DN Tunnel 13	4.08	7.64	DN Emigrant Gap	1.50	36.13	DN N.Eng.Mills	1.97	70.41
T Eder	2.19	9.83	T Fulda	2.05	38.18	T Applegate	3.31	73.72
DN Lakeview	1.80	11.63	DN Blue Canon	3.15	41.33	DN Clipper Gap	2.97	76.69
DN Summit	2.70	14.33	T Orel	2.64	43.97	T Bowman	3.41	80.10
T Soda Springs	2.96	17.29	DN Midas	2.08	46.05	DN Auburn	3.30	83.40
DN Spruce	2.81	20.10	T Gorge	2.29	48.34	T Zeta	2.98	86.38
T Troy	2.02	22.12	DN Towle	1.80	50.14	DN Newcastle	1.91	88.29
T Tamarack	2.00	24.12	DN Dutch Flat	2.63	52.77	DN Penryn	3.18	91.47
DN Cisco	3.51	27.63	DN Gold Run	2.12	54.89	DN Loomis	2.89	94.35
T Crystal Lake	2.16	29.79	T Magra	3.35	58.24	DN Rocklin	3.91	98.26
			DN Caporn	2.61	60.85			
			T Wirt	2.26	63.11			

DN — Day and night telegraph office. T — day and night telephone office.