The TURNTABLE

August 2015

NEWSLETTER FOR THE PAID & VOLUNTEER STAFF OF RAILTOWN 1897 STATE HISTORIC PARK

Upcoming Events

August 4th
Railtown Ladies luncheon
at Pine Tree Restaurant
Next to the Best Western
Call Dottie for info: 533-8483

August 5, 12, 19, 26
Wednesday diesel train rides.
Train times are 11am & 1pm.
*Also: 'Story Time in the Little Red Caboose' every Wednesday at 10am & Noon (for ages 2 thru 9) and the Junior Ranger Program at 10 and noon.

August 15
Saddle Creek Wine Club
Bar Car charter—12:00 train,
1:00 tour.

August 22
9th Annual Meals on Wheels Benefit 5:00—9:30 p.m.
Special train at 6:00.

August 22 + 23
Gold & Outdoor Festival at
The Mother Lode Fairgrounds
(Railtown will have a booth)

August 29
Polar Express New Volunteer Open House meeting with Delta Pick Mello at the Jamestown Community Hall, 9am to Noon
(Please pass the word to friends and family and any one who might be interested to volunteer for the Polar Express event)

The Telegraph— Essential Key to running a Railroad

The telegraph and the steam engine have been called the most significant inventions of the 1800s. The telegraph would prove invaluable to the development and safety of railroads.

Although it is widely believed that Samuel Morse invented the telegraph and Morse Code, in reality, he took an idea already in existence and improved and developed it into a viable system of communication.

Son of a Calvinist preacher, Morse was educated at Yale University where he studied philosophy and mathematics. While at Yale, Morse attended a lecture on electricity and became very interested in this new field of science. After Yale, Morse turned to fine art painting, studying for several years in Europe before returning to the United States to begin his career. A classical painter, he received many commissions to paint portraits. It was while working on a commission in New York City that an event occurred which would change his life. He received a hand-delivered letter from his father, via the slow-moving horse messengers of the day, that his wife was gravely ill. Morse left immediately for his Connecticut home but by the time he arrived his wife had not only died, but had already been buried. Grief stricken, Morse decided to refocus his life on developing a method of fast and reliable communication.

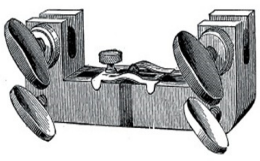
Portrait of John Adams by Samuel Morse

Remembering the Yale lecture on electricity, he contacted the leading experts of the day. Although an electric telegraph apparatus had been invented by others years before, Morse and his team were able to simplify and perfect a system capable of sending messages long distances. On January 11,1838, the first electromagnetic telegraph made its public display. In1844, they invented a telegraph that used paper ribbons to record the electronic current being sent over the lines. The team then developed the Morse Code as a way to make the imprinted paper ribbon readable by the receiver. Morse code consists of a series of dashes and dots, arranged in a way that represent the letters of the alphabet.

After years of hard development work, Morse's telegraph and code was an immediate success and within a decade, there were more than 200,000 miles of telegraph wire spread throughout the United States alone.

The Telegraph and the Railroad

The telegraph had a great impact on railroads. For the first time it was possible to transmit messages faster than trains moved. Prior to 1851, railroads were all single track and trains ran on a time-interval system. This led to disastrous accidents as trains traveling in opposite directions ran into each other as well as trains running in the same direction. Even when double tracking became the norm, it was still possible to have same direction collisions. By utilizing the telegraph, stationmasters knew exactly what trains were on the tracks under their supervision and arrivals, delays, and accidents could quickly be communicated. The telegraphers, stationed along the tracks, maintained communication between the dispatcher, who was usually many miles away, and the trains operating on the rail system. He copied train orders and messages for the train crews and reported the passing of trains to the dispatcher.



LINE TAPPING CLAMP.

For Operator's convenience in opening a wire at wrecks, or for testing, etc.

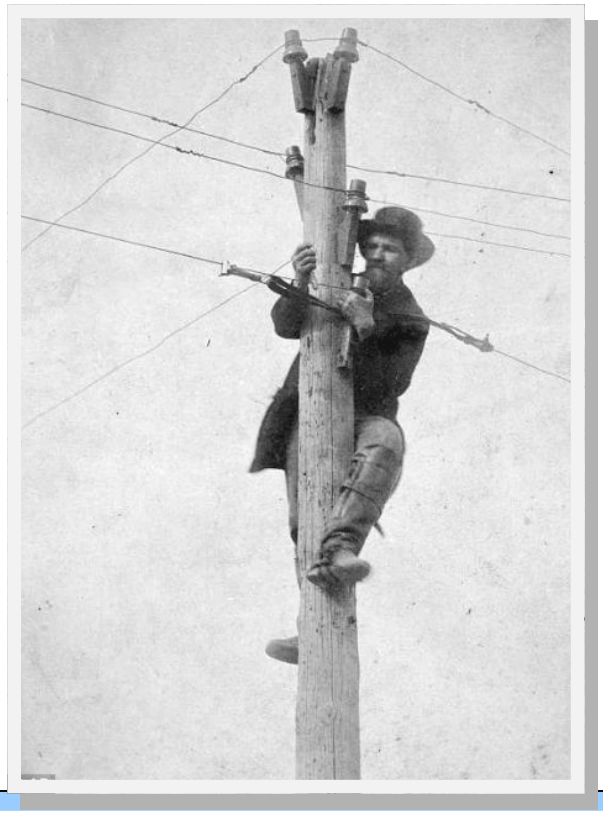
Being provided with a cut-off, it may be left in the line after using, until repairer comes along.

Price $4 50

Although the cost of constructing telegraph lines was negligible compared to laying track, there was still much work and maintenance involved. The lines had to be surveyed, holes had to be dug and poles placed every two hundred feet or so, arms and insulator pegs had to be attached, and the wire tension and pole bracing had to be just right. Perpetual maintenance was critical to keep this essential communication system working for the railway as broken wires or poles, ground faults, and branches touching the wires could all disrupt a signal. There were many things to consider when building a good telegraph line.

Along the way, the early builders of telegraphs made a lot of discoveries:

- Wires stapled to living trees made for very bad telegraph lines as any water and sap in and on the trees drained off the current before it traveled far.
- Poles made from living trees needed to be cut in the winter when the sap was down. They had to be debarked and dried before use or water seeped into the wood, the current drained off, and the pole would rot and fall.
- Telegraph lines don't work well if you run them through railway tunnels.
- Insulators on the poles helped the signal flow farther down the wires (the earliest insulators were made from a variety of materials, including animal bone. Ceramic and glass insulators worked best).
- Rain and moisture in the air interfered with the strength of telegraph signals. Wet insulators and poles drew enough current into the ground that little was left to flow through the wires of the early telegraph systems.
- If the telegraph wires had too much slack, the wind could blow the bare wires into contact with each other causing crossed wires.
- Bi-metallic wire (e.g. copper covered iron) deteriorated quickly in the elements. Copper wire stretched, iron wire rusted and all types could break. Finding the right gauge of wire and conductor to use with it was a difficult challenge.



The use of the telegraph by railroads was slowly phased out as telephones and later radios came into use. But the telegraph as a general means of communication remained in use around the world up until the late 1990s.

Interesting Facts about the Telegraph

- Telegraphs used rows of voltaic batteries to generate electricity.
- Telegraphs were the first commercial use of electricity.
- Ceramic insulators worked better than glass insulators as glass insulators maintain a thin film of water molecules on their surfaces which drains off some of the electrical flow.
- In 1908, "SOS" became the standard distress signal. The internationally recognized signal does not stand for any words—the letters were chosen because they are easy to transmit and easy to remember: **... _ _ _ ...**
- On the plains where trees were scarce, bison were a problem because they liked to rub their massive heads against the telegraph poles causing the poles to fall over and interrupt the signal. Someone came up with the idea of driving sharp spikes into some of the poles to deter the massive animals. However, this turned out to be counter productive because the bison preferred the spiked poles as they got a better scratch for their itch.
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(article provided by Karen Kling/ Interpretive Specialist)

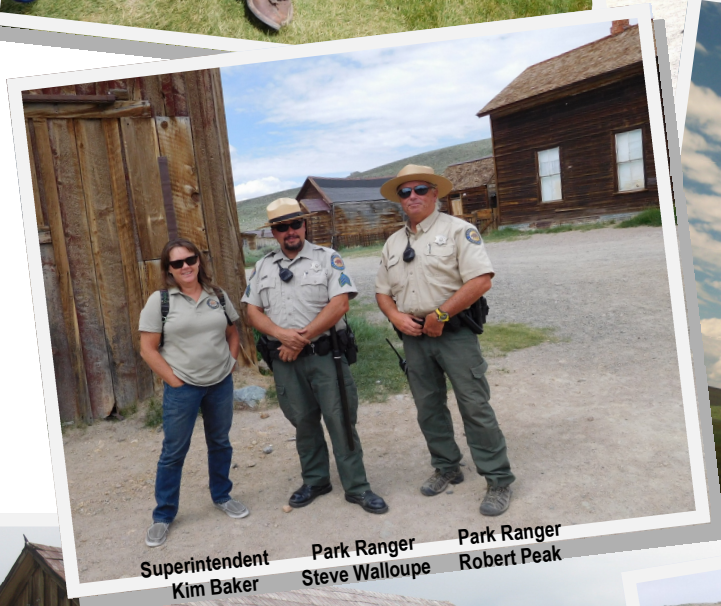
Telegraph glass insulators came in many colors and styles

Ceramic telegraph insulator on a post

Iron "rams horn" insulator used during the Civil War

Bodie State Historic Park Fieldtrip

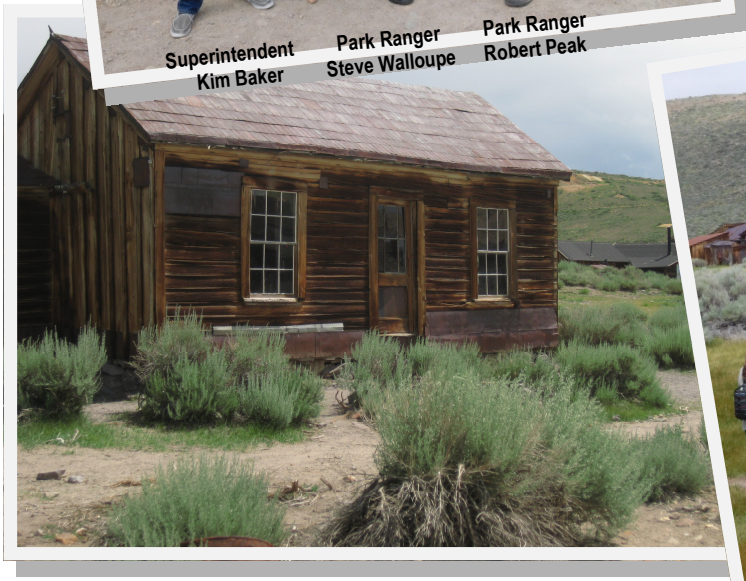
On July 21st, a few Railtown 1897 staff and volunteers were privileged to visit Bodie State Park and take a special tour led by the Sierra sector Superintendent Scott Elliot. We learned about the challenges involved in keeping such a large and isolated park maintained, the “Bodie Curse,” and were treated to a special tour of the Bodie train station which is off limits to the general public. All agreed that despite the long travel time involved, it was a fun and informative visit.



Superintendent Kim Baker

Park Ranger Steve Walloupe

Park Ranger Robert Peak



RAILTOWN 1897
State Historic Park

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Jamestown, CA 95327
Return Service Requested

TO:

Depot Store- (209) 984-3953
Volunteer Desk- (209) 984-4408
Volunteer Website- http://railtown.team.parks.ca.gov/volunteers
Railtown Blog– www.railtown1897.wordpress.com
Newsletter Editor— Dave.Rainwater@parks.ca.gov
Crew Caboose- (209) 984-0352

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Railtown Paid and Volunteer Staff Contact Information

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