



# Newsletter

Samuel Knight Chapter  
Society for Industrial Archeology  
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The Newsletter is published in April, August, and December with special issues when they are needed.

The Chapter web site is hosted by the SIA headquarters site:  
<http://www.sia-web.org/chapters/knight/knight.html>

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# Chapter News

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## Chapter Event - AMTRAK Excursion to the California State Railroad Museum

In a minor scheduling mixup, the excursion via AMTRAK to the California State Railroad Museum in Sacramento occurred on 5 Mar 05. A lively group, including Chapter members Craig and Dusty Miller, associated with the Osher Lifelong Learning Institute (OLLI) at the University of California – Santa Cruz joined Jay and Sharon McCauley for the trip.



### Just before boarding the Capitol Corridor train at Diridon Station, San José

Before leaving, Jay passed out the 30+ pages of notes for the trip, prepared when it was presented as a class for the San Jose State OLLI. (The Osher Foundation has made grants to most of the UC and CSU campuses as well as other universities and colleges to set up OLLIs.) As the trip progressed other passengers asked for copies as well as giving copies to the two conductors. If you were unable to make the trip and would like a copy of the notes, contact Jay.

The day was nearly perfect. The heavy winter rains have left a deep green blanket of grass punctuated with colorful wildflowers. The large orchards along the way were in full bloom. The route passes a great many sites that help tell stories of the growth of California industry, and some of the titanic struggles for industrial dominance. It also illustrates the evolution of industrial sites, as we pass by a number of “brown field” projects where former

industrial sites are in the process of becoming homes and offices, once hazardous materials have been removed or sequestered. (JM)



**Wreckage of a paddle wheel steamer along the Carquinez Straits. Anybody know the details?**

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**Upcoming Event – Bale Grist Mill SHP, St. Helena, CA, Saturday 7 May 05**

Plans are firming up for a visit to the Bale Grist Mill State Historic Park near St. Helena, CA on Saturday, 7 May 05. The Mill is approximately three miles north of St. Helena, CA on CA 29. The web site [http://www.parks.ca.gov/?page\\_id=482](http://www.parks.ca.gov/?page_id=482) has more information, including links to maps.



**Wheel at Bale Mill SHP (from the park web site)**

Before the grapes, the Napa Valley was the bread basket for the Bay Area, growing acres of wheat and other grains. The original mill was built in 1846 by Dr. Edward Turner Bale. Its most interesting feature is the 36 ft. water wheel. Alas, due to damage in the past, the wheel is not currently operational.

Plan your trip to arrive after the park's opening at 10. We'll do a tour around 11. There are picnic facilities at the nearby Boothe-Napa State Park, which is a two mile hike round trip or a short drive. We'll leave time for your own investigations of the site.

We'll end the day with an optional stop at the Napa Fire Museum in Napa, at about 2:30.

As with all our events, this is open to friends, family, etc. There is an admission fee for the Mill and for the Museum. (JM)

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### **Upcoming Event – Annual Chapter Meeting, Roots of Motive Power Steam Festival at Willets, CA, Saturday, 10 Sept 05**

In Issue 17, Board Member John de Marchi wrote about his visit to the Roots of Motive Power in Willits, CA. We have decided to hold our Annual Chapter Meeting in Willits on Saturday, 10 Sept 05 which is the day of the annual Festival at Roots of Motive Power. Live steam, old gas engines and lots of equipment make this a special day. We'll find a place to gather and hold our meeting, but most of the day is for you to enjoy this unique event. Details will be supplied a little closer to the event to Chapter members.

Willits is about 130 miles north of the Golden Gate Bridge on US 101.

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### **Upcoming Event – Visit to National Archives and Records Administration, San Bruno, CA, Saturday 3 Dec 05**

The National Archives and Records Administration Pacific Region maintains retired records from Federal agencies and courts in northern California, Hawaii, Nevada except Clark County, the Pacific Trust Territories, and American Samoa. Located a few miles from San Francisco Airport, the NARA facility is an important resource for anyone interested in the history of the region. We are working on lining up an author who has used the facilities to chat with us about the process. Details of the event will be provided a little closer to it.

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## **Notes and Tidbits**

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### **A Plug for the SIA Fall Tour**

SIA Members will be receiving information on the upcoming Fall Tour (29 Sep through 1 Oct 05) to be held in Detroit/Dearborn, MI. One of the events is the new tour of the Ford Rouge industrial complex. The Rouge was the largest integrated industrial complex in the world. Literally, iron ore boats came in on the Rouge River and Model-Ts shipped out on rail cars. It was perhaps the best industrial tour I've ever been on! The tour consists of five unique elements:

- A narrated drive from the Henry Ford Museum into and through the Rouge Complex

- Viewing a montage of historical footage and images
- A virtual reality experience of being in an automotive assembly plant
- A chance to see the innovative site of the new F150 assembly plant
- A self-guided tour around part of the F150 assembly line

See <http://www.thehenryford.org/rouge/tour.asp> for more information. Do try to go, the overall program looks to be excellent! (JM)

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## Book Review – *The John Bull - A British Locomotive Comes to America* by David Weitzman

Reviewed by John de Marchi

This thin volume, 40 pages, is rich in beautiful illustrations and a text that is well researched and informative about the first locomotive in America. The John Bull still exist and after 150 years it was checked out and run under steam in 1981, and it is again on display at the National Museum of American History in Washington D. C.

David Weitzman is well known to many of us who have an interest in the history of technology as he has written many books on various aspects of that history. I purchased a copy of *Superpower: The Making of a Steam Locomotive*, years ago and I was very impressed with the lovely pen and ink illustrations of the creation of a great steam locomotive. Recently I wrote a review of *Rider in the Sky* which was also beautifully illustrated by Mr. Weitzman. The book, *The John Bull*, takes a machine, which to most readers is complex and mysterious in its operation, and through very clear and beautiful drawings and cross sections the author explains the engine's operations. The text is concise and rich in facts and information regarding the need for such an engine, and how it was acquired, and shipped from England in pieces as a kit much to the surprise of the Americans. There are also beautiful drawings of some of the earlier engines built by Trevthick and Stephenson and why Stevens, the American client, needed to have his engine designed a bit differently for use in America.

Mr. Weitzman then proceeds to describe with text and very clear drawings how the locomotive was actually built. Through his drawing he takes us into the early 19<sup>th</sup> century forge shop to show step by step how the main axle is worked under the great water powered hammer. We also get to see how the iron tires are made and the wheels built up from wood and clad in iron. The boring of the cylinders which was a demanding task at that time, is wonderfully illustrated with a drawing of a boring mill of the type invented by John Wilkinson and he has also kindly provided drawings of the cutter heads.

As the John Bull is placed into service it is modified many times to accommodate the needs and circumstances of the Camden and Amboy RR. Many of these modification became standard for all steam locomotives in America, such as the spark arresting smoke stack, the cow catcher, head light, steam whistle, cow catcher and pilot wheels and even a cab was devised for the crew. The John Bull had a long career and was retired in 1886, afterwards she was steamed up occasionally for worlds fairs and other special events and in 1884 she was the given to the Smithsonian. In 1980 the John

Bull was inspected, x-rayed, and tested and steamed up and she again traveled on the rails again under her own power. Thanks to David Weitzman we can all enjoy the incredible history of the John Bull through a wonderful rich text and beautiful illustrations.

I found the book to be a delight to read, and it was great fun to study the drawings closely and to appreciate the amount of effort and research that it took to create such detailed illustrations. There is a tremendous amount of information in this thin volume, as the saying goes, a picture is worth a thousand words! Without Mr. Weitzman's illustrations the book would be thick and wordy by not near as informative as the lovely book which he has written and illustrated. Another bonus is that he is also a member of the Society of Industrial Archeology, and our Samuel Knight Chapter!

**The John Bull**, by **David Weitzman**, ISBN 0-374-38037-6, 40 pages, March 2004. **Farrar, Straus & Giroux**, New York.

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### **Video Review - *Pursuit of Precision***

Reviewed by David Lindquist

"Pursuit of Precision" is a 50-minute documentary made in 2003 about the Hendey Machine Company of Torrington, Connecticut. Hendey operated in Torrington from its beginning in 1870 until it closed its operations there in 1954. While its line of machine tools originally included planers, shapers and milling machines, its lathes contributed the most to this company's reputation as one of the leading American machine tool builders from the last decades of the 19<sup>th</sup> century through the first half of the 20<sup>th</sup>. This production uses historical photographs, interviews with historians, machinists and former employees, and some wonderful black-and-white footage of plant operations from the 1930's. In a present day tour, we get to see the inside of some of the empty but still standing red brick industrial buildings, including the foundry and the planer bay, where the lathe beds were machined.

The cyclic nature of the business of building machine tools, its particular sensitivity to the economy and how Hendey dealt with these problems are discussed. Labor relations, which sometimes could become quite personal as in families that had members both in labor and in management, are described, along with company-town relations. Torrington seems to have been something of a company town to Hendey and both town and company benefited.

Reasons for the demise of Hendey in Torrington are not well defined. Some of those interviewed suggested that the company's designs did not keep pace with modern industrial practice. This would be ironic, as Hendey was one of the first lathe builders to offer a gear head machine and a successful quick-change gearbox for setting threads and feeds back in the early 20<sup>th</sup> century. Others interviewed stated that the order books were full right up to the closing of the plant in 1954. In any case, the company's fate was sealed in 1952 when it was bought by a corporate raider who then sold the assets for more than he paid for the company.

This video is available both on VHS and DVD from the Torrington Historical Society for \$15.00 plus shipping. The historical society also has a nifty poster, four-color printing, 18 X 24 inches based on the cover of a 1930's

Hendey catalogue. Go to [www.torringtonhistoricalsociety.org](http://www.torringtonhistoricalsociety.org). Online ordering isn't possible, but you can print out an order form to mail in.

A footnote: the Hendey line of lathes was acquired by the Barber-Colman Company and production was moved to Rockford, Illinois. Lathes, including some new designs, bearing the Hendey name were built until the early 1960's.

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## **Book Review - *Isambard Kingdom Brunel - Engineering Knight Errant* by Adrian Vaughan**

Reviewed by John de Marchi

The author is primarily a railway historian, and he worked for many years on the British railroads. He has written 25 books on many aspects of the British Railways. For me I found the first half of the book a difficult read, partially because of the great detail about railroad legal trivia and the extensive arguments against I. K. Brunel as a person. L.T. C. Rolt biography of Brunel published in 1957 introduced Adrian Vaughan to I. K. Brunel. In the 80's the author re-read that book and discovered many misstatements and inaccuracies regarding I. K. Brunel.

From that realization that Rolt may have been guilty of "uncritical hero-worship" of I. K. Brunel, Adrian Vaughan was determined to write the true story and history of I. K. Brunel. The author spent many years and hundreds of hours of research looking into all aspects of I. K. Brunel's business and personal history. For any student of 19<sup>th</sup> century engineering and technology I think this is a must read book. I do think that the author has gone too far in trying to show the many defects in the character of I. K. Brunel and his engineering abilities and management style. Many of the great minds and innovators of the 19<sup>th</sup> century were not kind wonderful people by 20<sup>th</sup> century standards. I do think that I. K. Brunel was a man of his times, and a brilliant and innovative engineer but not a good people person. From many different sources in my readings of that period Brunel is described as being full of energy and going in many directions at once and covering many miles in the process or running many simultaneous projects. Even the author, especially in the second part of the book, admits that I. K. Brunel was an original thinker and that he did come up with some creative and well engineered projects that no one else at the time would have attempted.

In 1845 the Editor of the *Railway Times* wrote of Brunel: "We do not take him for either a rogue or a fool but an enthusiast, blinded by the light of his own genius, an engineering knight-errant, always on the lookout for magic caves to be penetrated and enchanted rivers to be crossed, never so happy as when engaged 'regardless of cost' in conquering some, to ordinary mortals, impossibility." In our own time we have characters such as Donald Trump who are considered successful and brilliant by some and I am sure in person that the 'Donald' would also be considered by many to be a ego maniac jerk! I have no doubt that I. K. Brunel had many faults but he has left the world with many marvelous and beautiful feats of engineering and he also helped to create and usher in the modern world that we take for granted.

**Isambard Kingdom Brunel**, by Adrian Vaughan, 1991, paperback 2003.  
**John Murray (Publishers)** London, ISBN 0-7195-5748-8

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Membership in the Samuel Knight Chapter is available in the following categories:

Individual	\$25	
Couple	\$30	One copy of newsletter
Student	\$10	Please send copy of current ID
Senior	\$10	Age 65 or older
Contributing	\$60	
Institutional	\$30	
Sustaining	\$125	
Corporate	\$100	Includes 4 memberships - please list names

To join the Chapter, please send a check or money order (made out to the Samuel Knight Chapter) to the Chapter Treasurer. We'd also love to know about your interests, skills, etc. that might be part of a future Chapter event. We encourage Chapter members to join the National SIA.