



NEWSLETTER

In July I was very pleased to travel to Boston to attend the first meeting of the Boston Area Construction History Group. This was organized by Sara Wermiel and John Ochsendorf and held at MIT. About twenty people attended. Sara gave a reprise of the paper she presented at the Cottbus congress and we talked about CHSA’s activities. There are plans to continue get-togethers from time-to time. Interest has been shown in organizing similar groups in New York, Chicago, Washington, DC and Atlanta.

Preparations are underway for two forthcoming meetings which are described more fully herein. The first will be in Washington, DC on December 2nd where CHSA in partnership with the National Building Museum is organizing a one day event. This will bring together government agencies, professional and trade associations and historical societies to explore what is being done in the field of construction history, how we might collaborate and how we may encourage greater visibility and awareness for CH. This is being sponsored by The Whiting-Turner Contracting Company to whom we are grateful. The company is celebrating its centennial this year.

Writing of which reminds me to remind you our members, to let us have any significant anniversaries to list and celebrate in this newsletter.

The location of the next CHSA biennial conference is now confirmed at the University of Pennsylvania, Philadelphia, PA. Please make a note of the dates: 20-22 May 2010. A Call for Papers is being posted and a copy should be attached to this newsletter for you.

Membership this year has fallen short of our target which is probably not too surprising given the state of the economy. Still, we remain convinced that there are a lot of people out there who are not aware we exist. It is our (the members) responsibility to spread the word, so, if you are reading this, please pause for a moment and send an e-mail to someone you know who would be interested in joining. Thanks!

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THANKS TO OUR INSTITUTIONAL AND CORPORATE MEMBERS

- * Associated General Contractors of America
- * Auburn University
- * Canadian Centre for Architecture
- * Construction Management Association of America
- * Georgia Institute of Technology
- * Levine Construction Company

- * Old Structures Engineering
- * Skanska USA Building, Inc.
- * Texas A&M University
- * Turner Construction Company
- * The Whiting Turner Contracting Company

CONTENTS

The Spearin Doctrine’s Common Law Roots 2

The Greatest Wheel Ever Built 3

Construction History, An Exploration 4

Notices 5

CHSA Biennial Conference 6



THE SPEARIN DOCTRINE'S COMMON LAW ROOTS

The decision by the U.S. Supreme Court in *United States v. Spearin*, 248 U.S. 132 (1918) is commonly recognized as a landmark decision allocating certain risks between an owner and a contractor that undertakes to construct a project or building for a fixed sum. However, a review of the precedents cited by the Supreme Court demonstrates that the Spearin doctrine was derived from certain basic concepts, which can be traced back to earlier common law from multiple state courts and from the United Kingdom.

In *Spearin*, the Court addressed the allocation of risk when a dry-dock constructed at the Brooklyn Navy Yard in accordance with detailed plans and specifications provided by the Government, failed due to a deficiency in the design of a sewer line that was part of the work undertaken by the contractor. The Court contrasted two basic principles of construction law as follows:

Where one agrees to do, for a fixed sum, a thing possible to be performed, he will not be excused or become entitled to additional compensation, because unforeseen difficulties are encountered. (Citations omitted.) Thus one who undertakes to erect a structure upon a particular site, assumes ordinarily the risk of subsidence of the soil. (Citations omitted.) But if the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the plans and specifications. (Citations omitted.)

(Emphasis added.)

The right to control is the key to understanding the Court's allocation of risks in *Spearin* as reflected in the phrase "if the contractor is bound" to build in accordance with detailed plans and specifications prepared by the owner. The critical importance of control was clearly articulated in the state law precedents cited by the Supreme Court, especially the 1889 decision by the Wisconsin Supreme Court in *Bentley v. State*, 73 Wis. 416, 41 N.W. 338 (1889). In *Bentley*, the Wisconsin Supreme Court emphasized that the owner's exercise of control over the work, by requiring the contractor to build two new wings for the state capitol in accordance with the design prepared by an architect engaged by the state, placed the risk of defects in that design on the owner. In reaching that holding, the Wisconsin court cited to similar holdings in Illinois, New Jersey, New Hampshire, Michigan, and Massachusetts.

In addition to citing to multiple decisions from other state courts, the Wisconsin court also looked to decisions from the United Kingdom to support its analysis of the proper allocation of risks. The *Bentley* court distinguished the English decision in *Thorn v. Mayor, etc.*, 1 App. Cas. 120, affirming 44 L. J. Exch. 62 because the contractor's performance problems and cost overruns in that

case were the result of the inadequacy of the caissons used by the contractor in the construction of a bridge over the Thames. The Wisconsin Supreme Court stressed that the owner had not provided any information regarding the soil conditions, did not detail the design for the caissons and expressly placed the risk of sinking the caissons on the contractor.

In contrast, the Wisconsin court noted that the English House of Lords had consistently implied a warranty of fitness when "goods or machinery are ordered for a particular use, to the knowledge of the manufacturer... there is an implied warranty... that they will be fit for such use...." See *Drummond v. Van Ingen*, L. R. 12 App. Cas. 284. In *Bentley*, the Wisconsin court extended this implied warranty principle and risk of defects from the English courts to address the risk of defects in detailed plans and specifications prepared by or for the owner. While the *Spearin* doctrine has become synonymous with the concept of the implied warranty of the adequacy of the owner provided plans and specifications, that doctrine easily can be traced back to the precedents found in the English Common Law.



USS New Mexico in Dry Dock # 4, Jan 1918
(courtesy BYNDC Flickr)



Thomas J. Kelleher, Jr.
Senior Partner

THE GREATEST WHEEL EVER BUILT

In the waning months of 1892, shortly before America's first and much-ballyhooed world's fair was to open in Chicago, its planning committee was in a panic. There was no engineering marvel to equal the Eiffel Tower, the star of the previous world fair in Paris. All engineering submittals to date - for an equal to Eiffel's spectacular structure - had been rejected. At a special meeting of engineers where he was the guest speaker, Daniel Burnham, head of Chicago's fair committee stunned the audience by chiding U.S. civil engineers for their lack of creativity, and challenged them to, posthaste, come up with something that would "meet the expectations of the people."

Burnham's stabbing remarks greatly irritated the U.S. engineering community. One engineer in particular, a tall, dark, handsome 33-year-old consulting engineer based in Pittsburgh, took offense. George Ferris told his colleagues Burnham's words, "cut me to the quick." He vowed to develop an engineering marvel that would outshine Eiffel's accomplishment - something that would be representative of America's leading-edge engineering, technological and building talents. After casting around several ideas, he settled on a solution - a colossal, 250-foot-diameter, circulating observation wheel comprised of steel tension-spokes, a concept never been attempted before.

At first, Ferris's creation was dismissed by Burnham and his committee; they scoffed at its flimsy, spider-web-looking appearance, saying it would never stand up, especially when exposed to Chicago's horrific winds. And even if it did, "no one in their right mind would ride it." Even many in the engineering field thought it impractical and Ferris to be a fool, a "man with wheels in his head." Because of his wheel's lightweight construction, they said, "Its circular shape will distort into an ellipse as it turned on its axis." How wrong they were!

Not one to be rejected, the daring Ferris persisted until his invention finally won the fair committee's approval. The only problem being that when he received a signed contract to proceed less than five months remained for him to design, finance, order materials, and construct the greatest wheel ever built. No one but the persuasive Ferris - with his business and financial connections, and intimate knowledge of the U.S. construction and steel industries - who had the wherewithal to complete such a staggering assignment in so short a time. Even so it took him six months! But complete it he did, for less than \$400,000 (\$9 million in 2009 dollars).

His Wheel not only became the star of Chicago's 1893 Colombian World's Exposition, it elevated structural steel and tension-spoke structures into the limelight, making them popular building materials and systems, changing construction techniques forever.

In addition to its tension spokes, the giant wheel featured other firsts including a 32-inch diameter, 45-foot long axle, the largest piece of

steel ever forged. With its two end hubs, it weighed 48 tons. Thirty-six, fancy upholstery-trimmed cabins the size of cable cars hung around the periphery of the Wheel and carried 2160 passengers, still a record.

Ferris's 19th century wheel not only established Ferris as the "Father of Sky (Observation) Wheels," it has led to the 21st century's international race to have the world's tallest Ferris wheel. First came the 443-foot-tall London Eye in 2000, while the current record-holder is the 541-foot-tall Singapore Flyer opened in 2008. (Soon, Beijing's 682-foot Great Wheel of China will take the title.)



*The 1893 Ferris Wheel
Credit: Douglas County (Nevada) Historical Society*

The first and only book ever written about George Ferris and how he accomplished the impossible (the creation, financing, engineering, building and operation of the greatest wheel ever built) - and how it consumed him - is now out.

Circles in the Sky: The Life and Times of George Ferris by Richard Weingardt can be obtained from either ASCE Press (the publisher), Richard Weingardt (the author), or Amazon.com.



*Richard G. Weingardt, PE
CEO and chairman of Richard Weingardt
Consultants, Inc.*

CONSTRUCTION HISTORY – AN EXPLORATION

In our continuing effort to define ourselves and our mission, we approached several people in Washington, DC involved in one aspect or another of construction history, to see if they would be willing to meet and discuss the subject. There was an enthusiastic response and this one day colloquium is the result.

When?
2 December 2009

Where?
National Building Museum, Washington, DC

This event gathers together in three panels representatives from government agencies, professional and trade associations and design and construction history societies, to debate and discuss:

- why the study and research of the history of all aspects of American design and construction is important.
- current activities and commitments of the representative entities in the field.
- opportunities for future collaboration on the subject.
- initiatives that can be taken to expand awareness of the value of construction history throughout the industry and with the public.

OUTLINE PROGRAM:

8.00am Registration
8.30am Opening Remarks
9.00am Panel 1 – Federal Agencies
10.30am Panel 2 – Professional & Trade Associations
12 noon Lunch with speaker
1.15pm Role of Construction History in Academia
2.00pm Panel 3 – Design & Construction History Societies
4.00pm Summing up
4.30pm Adjournment

SPEAKERS & PANELISTS

Speakers and panelists include representatives from GSA, National Park Service, US Army Corps of Engineers, Architect of the Capitol, AIA, ASCE, ACEC, AGC, CMAA, NAHB, Society of Architectural Historians, Public Works History Society, National Building Museum, Association for Preservation Technology, Society of Industrial Archaeologists and representatives from the Construction History Society of America.

The event is organized in partnership with the National Building Museum, is sponsored by AGC of America and supported by the Whiting-Turner Contracting Company, who are celebrating their centennial this year.

FURTHER DETAILS & REGISTRATION

VISIT CHSA'S WEBSITE AT
WWW.CONSTRUCTIONHISTORYSOCIETY.ORG
OR E-MAIL
CHS@COA.GATECH.EDU
SPACE IS LIMITED, SO REGISTER EARLY.



NBM Interior, Washington, D.C.

REGIONAL CONSTRUCTION GROUPS

On page one it was noted that these groups are forming to provide a forum for anyone interested in any aspect of construction history to meet and exchange views and information on projects, listen to papers and research summaries, etc. As our national meetings are so far apart, this is an excellent method of keeping in touch with colleagues in the field and. . . you do not have to be a CHSA member to attend.

Boston is already underway and anyone wishing to be on the e-mail list can contact Sara Wermiel at swermiel@verizon.net

For other cities these are the contacts:

- New York: Don Friedman at df@oldstructures.com
- Chicago: Tom Leslie at tleslie@iastate.edu
- Atlanta: Brian Bowen at bribow@bellsouth.net
- Washington, DC: looking for a volunteer?

WHAT IS CONSTRUCTION HISTORY?

As this is such a new field of study (at least in the US), we are constantly searching for new ways of defining it. This is a good one that Sara Wermiel devised for the Boston Group meeting:

Construction history deals with the many dimensions of the development of buildings and structures, not only the physical results (the artifacts), but also the processes involved in their creation. These can be the more obvious processes like structural and architectural design, but also, for example, the processes of contracting and construction finance; building, including building methods, materials, and equipment; building and safety regulation; invention, standards setting, and testing processes.

Send us your definition!

2010 ANNIVERSARIES

In our next newsletter we would like to include any worthwhile anniversaries you can think of. Please send these to us for any event occurring 50, 75, 100, 150 or 200 years ago - births, deaths, openings, etc.

CHSA BIENNIAL CONFERENCE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA

This will be held May 20 – 22, 2010 in Meyerson Hall hosted by the Graduate Program in Historic Preservation, School of Design.

Preparations are now underway and the first order of business has been the issuance of the Call for Papers by the Program Committee. A copy should be attached to this newsletter transmission. At our inaugural meeting (November 2008) we fielded 12 papers and this time aim to double that. . so please, spread the CFP notice as widely as you can. You may also refer anyone to the CHSA website (www.constructionhistorysociety.org) where a copy of the CFP can be down- loaded.

The event will begin with a reception on the evening of May 20th in the Architecture Archives of the Fisher Fine Arts Library featured here. This is one of the finest architectural archives in the country and tours will be arranged.

A full technical program is being organized for the 21st and morning of the 22nd. The afternoon of that day is set aside for tours and special events.

You will be updated as the details of the program unfold.



Fisher Fine Arts Library, University of Pennsylvania

CONSTRUCTION HISTORY
JOURNAL OF THE CONSTRUCTION HISTORY SOCIETY

Again, this is an appeal for submittal of papers on American topics to this Journal.
See notes for contributors at:
www.constructionhistory.co.uk

WHO WE ARE

The Society is dedicated to the study of the history and evolution of all aspects of the built environment—its creation, maintenance and management. It is a forum for scholars and professionals in the field to share, meet and exchange ideas and research.

Membership is open to a wide range of construction related disciplines involved in the planning, development, design and construction of buildings and engineering infrastructure, in addition to those concerned with their operation and preservation. Members share a passion for examining how our existing structures were planned, designed and built, with the purpose of using this knowledge to better preserve what we have and to guide us in determining future directions.

The US branch of the Construction History Society is a distinct entity catering to the historical studies and interests of its members here in America. Membership in the US branch includes full benefits in CHS at large, including receipt of the Society's Journal and newsletter and links to scholars in the field worldwide.

MANAGEMENT COMMITTEE

Brian Bowen (Chairman), GA Tech, Atlanta, GA

Anat Geva (Vice Chairman), Texas A&M University, College Station, TX

Tom Leslie (Secretary), Iowa State University, Ames, IA

Jeff Beard, ACEC, Washington, DC

Don Friedman, Old Structures Engineering, New York, NY

Frank Matero, University of Pennsylvania, Philadelphia, PA

John Ochsendorf, MIT, Cambridge, MA

Michael Ramage, Cambridge University, Cambridge, UK

Linda Ruth, Auburn University, Auburn, AL

CORRESPONDING SOCIETIES

Public Works Historical Society, www.pwhs.net

Historical Construction Equipment Association,
www.hcea.net

THIS IS YOUR NEWSLETTER AND THE ONLY VEHICLE WE HAVE TO KEEP IN TOUCH WITH ONE ANOTHER.

SO PLEASE USE THIS TO LET US KNOW:

- * your interests in construction history, your current research, précis of recent lectures, etc.
- * books, texts & articles that your fellow readers should know about
- * names and e-addresses of colleagues and friends that we can include on our mailing list
- * if you are willing to write a brief article for us.

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