Construction History Society of America Issue No. 19 April 2012

CHSA Newsletter

Those of you who read these editorials regularly will know that they constantly harp on about membership – please renew, spread the word, participate, etc. and this one will be no exception! We really do need to build up a solid core of members, so I would urge those of you who intend to renew your 2012 membership but have yet to get around to it, to please send in your check now or go to the website. Thanks!

Last year Don Friedman set up for us a Construction History Group at Linkedin. To our pleasant surprise this has grown to 230 at last count – nearly twice as many as our membership. We plan to be more active with this group, so why not join up now. Clearly many, if not most, group members have not joined CHSA so we will try to encourage them to take that step.

Following the successful local CHSA meeting in New York last fall, it is encouraging to hear that Minneapolis-St Paul is organizing an event on May 17th at the University of Minnesota. Check out the details herein.

You should all have received the Call for Papers for our 3rd Biennial meeting at MIT in Boston and I would urge you to submit an abstract before the June 1st deadline. Further details inside.

Finally at last the 2011 Construction History Journal after many delays is here and is being mailed to all 2011 members. Thank you for your patience.

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Thanks to our institutional and corporate members

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THE QUANTITY SURVEY DILEMMA

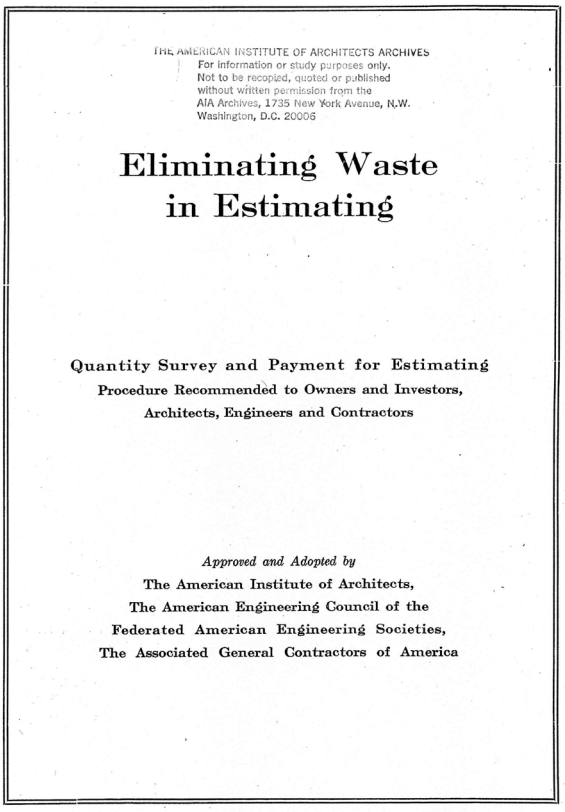
Many have wondered why the American construction industry never adopted the approach used in Great Britain and Europe of providing bidding contractors with a schedule (or bill) of quantities. This eliminated the duplication of estimating effort by the bidders and, coincidentally, provided the owner with a tool for more efficient cost control during construction.

New research by the writer has discovered that, as the Duke of Wellington commented about Waterloo, "it was a close run thing". The American story begins after the Civil War with the formation of general contractors willing to take single price construction contracts. Prior to this time work of any substance was contracted separately trade by trade, either at a fixed price or on a measure and value basis with unit rates quoted in the contract. In either case the measurement tasks were handled by the trades and, in the case of measure and value, checked by the architect or engineer.

With the arrival of general contracting it was natural for the new contractors to expect to be given with the drawings and specifications, a list of quantities. The owners looked to the architects and engineers to supply this. The engineers complied on the grounds that they were better equipped to establish the probable quantities as most civil engineering work was nebulous in scope and could only be fairly calculated on completion. The architects however balked at providing building quantities without an extra fee which the owners, for the most part, refused to pay.

By the end of the 1890's a serious dialog opened up including much comparison to the system that had evolved in Great Britain whereby a quantity surveyor was paid to provide the bills. The general contractors were not organized until 1918 when the AGC was formed. With AIA taking the lead eventually in 1921 a joint communiqué with the American Engineering Council and the AGC was issued under the heading "Eliminating Waste in Estimating". The document suggested a payment of ¼% to 1% of the cost and that the quantity survey be made part of the contract after allowing the successful bidder time to verify the quantities, which were not to be guaranteed.

The proposal received a generally positive press, but the owners were unimpressed, failing to be convinced that the approach would save them money in the long run. Swept up by the enthusiasm an American Institute of Quantity Surveyors was formed, but it was never influential enough to effect the outcome.



Eliminating Waste in Estimating

Quantity Survey and Payment for Estimating
Procedure Recommended to Owners and Investors,
Architects, Engineers and Contractors

Approved and Adopted by
The American Institute of Architects,
The American Engineering Council of the
Federated American Engineering Societies,
The Associated General Contractors of America

In the meantime the contractors had devised various methods for eliminating the duplication of estimating effort or of obtaining reimbursement for the cost. Quantity survey bureaus were set up in most major cities, some of which were sponsored by the local Builder's Exchange or AGC chapter, who then provided quantities to all bidders. Each bidder carried a sum in their bids to cover the cost and the successful bidder

then paid the bureau, many of whom made a nice little profit on the deal.

Eventually in 1945 the AGC withdrew its support for the initiative. Most of their members considered their estimating departments as a competitive advantage and also felt that the provision of quantities would encourage unfair competition.

The progress of quantity surveying in Great Britain from the nineteenth century to the present is a story for another time. It finishes with the fact that most quantity surveyors no longer go by that designation and few still prepare bills of quantities anymore.

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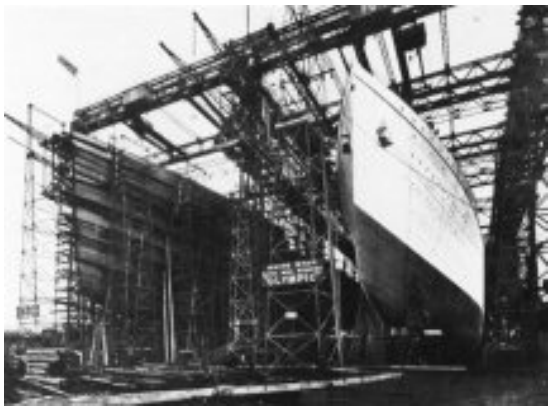
Sources: American Architect magazine, AIA Archives.

ANOTHER 2012 ANNIVERSARY

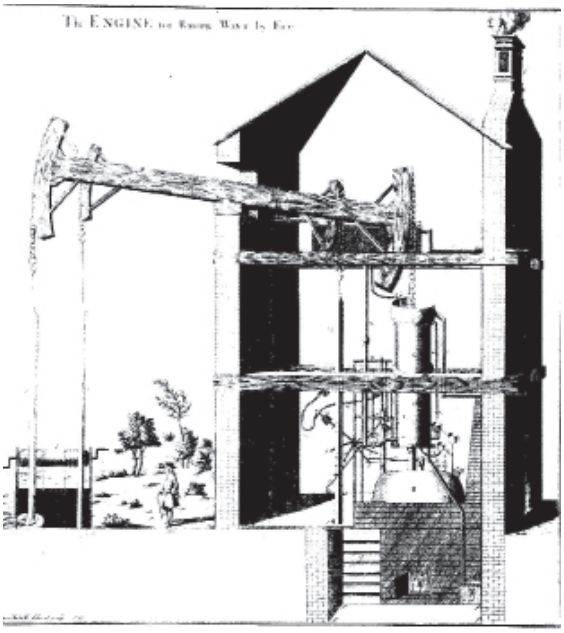
As everyone must be aware from the extensive press coverage, this month is the centenary of the sinking of the Titanic. This would usually be a subject for a maritime shipping newsletter rather than one devoted to construction history, but the scale and type of construction works necessary to build the ship are also worthy of awe. Harland & Wolff of Belfast were the builders of the Titanic and two other similar vessels, the Olympic and the Brittanic. These were to be the largest ships afloat and special arrangements needed to be made for their assembly. Sir William Arrol & Co., a civil engineering designer and contractor of Glasgow, were brought in to tackle the problem. In the 1890's they had designed and built the Forth Bridge in Scotland and Tower Bridge in London. They extended the slipways and constructed a huge gantry to cover two slipways in which the Titanic and Olympic were built side-by-side. This was forever known as the Arrol Gantry, measuring 840 ft x 240 ft x 228 ft high with 6,000 tons of steel. It remained a dominant feature of the Belfast skyline until the 1960's.



Arrol Gantry, Harland & Wolff, Belfast - Olympic on right, Titanic left

FAIRBOTTOM BOBS

2012 marks the 300th anniversary of the first operational Newcomen steam engine. Thomas Newcomen lived and worked in Dartmouth in the English West country, and described himself as an ironmonger. In 1712 he built an engine to pump water from a coal mine in Dudley in central England. The demand for coal was growing as the industrial revolution began, necessitating deeper mining which attracted flood water. Newcomen's engine was very inefficient but the coal was free and the gains in increased production were high. As the ancestor of all of today's motors it changed the world forever.



"The Engine for Raising Water by Fire", Newcomen Atmospheric Engine, 1725, Science Museum

In 1928 Henry Ford sent instructions to the Ford factory in Trafford Park, Manchester to acquire a Newcomen engine for the Dearborn Museum he was planning. One was found at Ashton-under-Lyne nearby on the site of the former Chambers Colliery. This had been installed around 1760 and remained in use until 1827. It was called locally Fairbottom Bobs. It was highly dilapidated, but was donated to Ford who shipped it to Dearborn and had it restored where it is the centerpiece of a collection of English engines in the museum.

Newcomen Engine, Dearborn Museum, Detroit

4TH INTERNATIONAL CONGRESS ON CONSTRUCTION HISTORY, PARIS, JULY 3RD – 7TH, 2012

We hear that registration is going well with an expected audience of close to 400, which is well in excess of attendance at the 3rd Congress in Cottbus. We also hear that the program schedule has been posted at the Congress website ww.icch2012.fr and includes over 200 papers. We hope to have a strong American contingent there to help us promote the 2015 5th Congress which will be in Chicago.

GOLDEN GATE BRIDGE 75TH ANNIVERSARY

Our corresponding society, the Public Works Historical Society has asked us to post the following invitation to our members.

As part of the 75th anniversary celebration of the Golden Gate Bridge, APWA, the Golden Gate Bridge, Highway and Transportation District (GGBHTD), the Consortium of Universities for Research in Earthquake Engineering (CUREE) and the National Science Foundation would like to invite members of the Construction History Society of America to participate in a conference designed to boost the public's understanding of engineering, science, technology, and mathematics through experiences at out-of-the-classroom venues. Scheduled to take place June 20-22 in San Francisco, The Public Works for Public Learning Conference will also feature a permanent outdoor exhibition at the south end (San Francisco side) of the Golden Gate Bridge, developed by the GGBHTD. The exhibition will feature a detailed 1:80 scale model of the bridge over 80 feet long made of stainless steel, which provides a "table of contents" for twenty satellite hands-on exhibits around it. The satellite exhibits inform the public about the history of the bridge, its engineering and construction, and how it is operated and maintained.

Along with the Golden Gate Bridge outdoor exhibition, other world-famous civil engineering works and their visitor programs will be featured in presentations at the conference, illustrating how dams and water systems, roads, tunnels, towers, and other kinds of infrastructure can become learning resources for the public. In addition to large scale facilities that are visited by millions of people a year, APWA is facilitating presentations on examples of small-scale, small-budget exhibit projects that local public works agencies have mounted. The international conference and permanent outdoor exhibit is funded by a grant from the National Science Foundation.

For more information on the exhibits and the conference, go to www.pwplconference.com.

Links to previously published APWA Reporter articles on the conference can be found below.

- Public Works for Public Learning, Jun 2011, p. 32
- A scale model of the Golden Gate Bridge for visitors to enjoy, Sep 2011, p. 108
- Conference on the outdoor Exhibition at the Golden Gate Bridge called Public Works for Public Learning, Feb 2012, p. 22

Minneapolis/St Paul: CHSA Pecha Kucha Event

May 17, 2012, 7-9 pm
University of Minnesota Nolte Hall, Room 140
Free event
Please join the Construction History Society of America and construction history enthusiasts for an evening of pecha kucha presentations. Light refreshments (and entertainment) will be provided. Space is limited so please reserve early. There are a few remaining openings for pecha kucha presentations, please contact Peter Hilger at the address below of you are interested in presenting. More information on pecha kucha can be found at http://www.pecha-kucha.org/
Please RSVP to aphilger@umn.edu with "CHSA Event Reservation" in the subject line. For more on the Construction History Society of America, http://www.constructionhistorysociety.org/

TWO NEW CORPORATE SUPPORTERS

We have two new corporate supporters this quarter, both with significant longevity – Gleeds USA Inc (founded 1885) and the Fluor Group (founded 1912). Both would have been involved in one way or another with the Quantity Survey story on page 2.

Gleeds was founded in 1885 by Richard Cumming Gleed, an Architect by trade who specialized in the measurement and costing of building works. At the time, architects commonly used these skills, however individuals like Richard Gleed were beginning to form businesses that concentrated on certain key activities.

Gleeds as a firm evolved into a partnership in the early 1900's and under the direction of the Gleed family, the company became one of England's largest and most renowned firms in quantity surveying. The company's first offices were in St. Martin's Lane, London, and its first real expansion began in 1927 with the opening of an office in Bristol, followed by an office in Nottingham in 1935.

The Gleed family's connection with the firm ended in the 1960's when two grandsons of the original founder retired. From its early days, Gleeds' innovation, exploitation of emerging technologies and willingness to seize opportunities to further its development have enabled the firm to secure a competitive edge and become one of the largest independent quantity surveying firms in the world. While the company's headquarters are in London, the overseas offices are driving the future of the business, which today has expanded to over 45 offices throughout the globe employing more than 1,200 staff.

Over the years, the service offerings Gleeds provides have evolved and expanded, solidifying the company as a pre-eminent global provider of independent construction and cost advice to Owners. Today, Gleeds offers advice and management support from the inception of a construction project and the development of its funding through to its final delivery and ongoing management.
In the United States, the offices in Atlanta and New York offer services such as Program Management, Cost Management, Scheduling, Information Management and Sustainability Consulting. Gleeds has an extensive portfolio of projects within the United States, focusing heavily on program management and cost control in the Commercial, Hospitality, Industrial, Aviation, Healthcare, Residential, Higher Education, Institutional, and Government sectors.

Fluor is ranked as the second largest US contractor with revenues of $20.8 bn in 2010 by Engineering News Record. The company today operates as an engineering, procurement, contracting and management firm focusing especially on industrial, petro-chemical and other heavy construction sectors. It was founded in Santa Ana, CA in 1912 by John Simon Fluor Sr., a Swiss immigrant master builder. Almost from the start the company specialized in the new oil and gas facilities and made a name for itself by inventing the Buddha water-cooling tower in 1920. Go to www.fluor100.com to learn more of the company's history.

3rd Biennial Construction History Society of America Meeting, MIT, Boston, November 2nd – 3rd, 2012

The call for papers has been posted at our website. Abstracts are due June 1st. Papers are invited in two subject areas:
American Construction History 1850-1950 (November 2nd)
Guastavino Construction- past, present and future (November 3rd)
Further information will be forthcoming over the next few months.

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.

Corresponding Societies

Public Works Historical Society, www.pwhs.net

Historical Construction Equipment Association, www.hcea.net

Society of Architectural Historians, www.sah.org

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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