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May 12, 2010

The Graystone Society, Inc.
76 South First Avenue
Coatesville, PA 19320

Attn: Mr. Scott G. Huston, President

Re: World Trade Center Columns – Convoy to Coatesville – April 14, 2010

Dear Mr. Huston,

I read the news articles and saw some of the video coverage of the convoy of trucks that brought the World Trade Center columns and beams to Coatesville on April 14th.

On April 17th, I sent an e-mail to admin@lukensnhd.org concerning some of the information that was and was not on the Museum website at http://www.lukenshistoricdistrict.org/trees.htm. As of today, I have not received a reply to that e-mail.

I am writing to you with several purposes:

First – Thank you for your efforts to have the columns brought to a location where they can be on display as a memorial to those who died, those who helped and those who worked to build the World Trade Center.

Second – I am writing to provide you with additional information as it relates to the work done by Pittsburgh-Des Moines Steel Company (PDM) to fabricate the "forked" columns at the base of the World Trade Center. The initial articles and videos that I saw during the first week after the convoy made no mention of PDM as the fabricator. I see now that PDM is mentioned on your website, but I believe that it has some inaccuracies that I will identify in this letter.

I have a copy of the July-August, 1968 "PDM News" that has a photo of the first column and other pieces in fabrication at PDM's Heavy Assembly Shop. Please see the attached scanned page from the newsletter. Notice the similarities of the building structure and fixturing of the columns to the photo on your website. Indeed, the photo at your website of the stack of "forked" plates in the foreground was taken at PDM's Neville Island facility.

I do not doubt that the steel plate was made and rolled (not forged as some articles stated) by Lukens. The **fabrication and welding of the plates** (several inches thick) into their final form was done by the Pittsburgh-Des Moines Steel Company (PDM) at their Neville Island Plant on the Ohio River near Pittsburgh, PA. PDM was best known as the fabricator and erector of the St. Louis Arch. PDM as a corporation was sold in several parcels to various companies including Chicago Bridge & Iron (CBI) around 2002.

Here is some of the text at the link: http://www.lukenshistoricdistrict.org/trees.htm

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The scrap was then melted in the electric arc furnace, and poured into molds forming ingots. These ingots were then sent to the rolling mill, where they were reheated and rolled to the proper thickness. The steel plates were then sent to Plant 5, where they were flame cut into the distinctive "tree" shape. The finished trees were then shipped (using three rail flat cars each) to Staten Island, New York for final assembly by Pittsburgh-Des Moines.
The trees were made, rolled and welded in 1968 and 69, and shipped to New York via rail. The trees are massive, up to 70 tons in weigh[t], and spanned the first nine floors of the two World Trade Center towers. The buildings were completed in 1970, standing 1,350 feet or 110 stories tall, and stood until the tragic day in September 2001.

The photo above (from your website) is actually a picture from PDM's Heavy Assembly Shop (HAS) on Neville Island. The building is still there today, but it is under different ownership. PDM's fabrication plant at Neville Island was established in 1907. **They never had a fabrication facility on Staten Island.**

On page 213 of the book – "Men of Steel – The Story of the Family that Built the World Trade Center", by Karl Koch III with Richard Firstman, the author states " …The trees

might look simple once they were delivered, but you couldn't tell that to the shop men at Pittsburgh Des Moines who had to assemble, blast clean, paint and then weld together 152 units that had a variety of widths and grades of carbon, alloy and high-strength steels – a $3.2 million contract."

On the same page, Koch also states, " All of the shops were responsible for acquiring their own raw steel, with the Port Authority sending out inspectors to their plants to approve the material before it was fabricated."

Based on the wording in the Koch book, the contract for the forks would have been awarded to PDM and they would have been responsible for purchasing the steel from Lukens and others.

At the Hagley Digital Archives:

http://digital.hagley.org/cdm4/results.php?CISOOP1=exact&CISOBOX1=world+trade+center&CISOFIELD1=CISOSEARCHALL&CISOROOT=%2Fp268001coll25

There is a photo of the columns and the lower end of the forks that was used in the Lukens 1969 Annual Report. The text on the back states: Written on back: "Steel panels fabricated from Lukens steel plates making facade of World Trade Center, NYC, 1969. 1969 Lukens annual report."

Perhaps this photo and this caption led to some of the confusion. It says that the panels were fabricated from Lukens steel – not fabricated by Lukens.

My first-hand knowledge of PDM's involvement is as follows: I graduated from high school in 1965 and spent the summers of 1965 - 1968 working in the drafting room of PDM. I saw the "forked shaped panels" in fabrication during some of those summers. They were shipped one to a railroad car to NYC. Starting in 1969, I worked for PDM as a graduate engineer for over 16 years. I have two copies of PDM's 100-year history "Towering over America" (1892 - 1992) that has a picture of a column on a flatbed car and other parts in fabrication.

I have spoken with several other engineers that worked for PDM at the time of the World Trade Center fabrication. They are located in several states now. One of them said that he signed his name on the inside of some of the columns. They all agree that all of PDM's work was done at Neville Island (near Pittsburgh on the Ohio River). **None of them could recall if PDM received the plate for the forked as full plates or precut into the forked shape.** PDM certainly had the capability to cut the plates to the required shape. All of the former PDM employees agree that PDM (at Neville Island) did the all of the welding of the 56 foot long forked sections that were sent – one to a rail car – to NYC.

Is it possible that Lukens fabricated the large columns that were immediately below the forked columns? I see from the pictures on your website that some of them have been brought to Coatesville. Those columns below the forks had large bolted connections to tie them together in the horizontal plane.

Third – I respectfully request that you review and verify the information that I have presented in this letter.

Fourth – I respectfully request that you give PDM the proper mention and credit for the work that they did for the fabrication of the "forked" columns.

My purpose in writing this letter is so that the accomplishments of PDM are not forgotten. My father worked at PDM for 38 years and retired in 1980 after having been Chief Engineer for many years. He was Chief Engineer during the completion of the World Trade Center Project and the St. Louis Arch. PDM had a reputation for building difficult structures such as nuclear containment vessels for nuclear power plants, elevated water tanks, cryogenic tanks and vacuum chambers and wind tunnels for the aerospace industry.

I do not have access to any specifics, but I believe that Lukens and PDM had a long supplier – purchaser relationship. For example: A553 Type I steel (9 % nickel) was used for many of the LNG (liquefied natural gas @ -260 deg F) storage tanks that PDM built around the world. In addition, at the time that PDM fabricated and erected the St. Louis Arch, it was the largest tonnage of stainless steel ever used on a single project.

I look forward to visiting Coatesville at some time in the future and seeing the columns once again and the rest of your Museum.

It seems strange to say this – and you may agree, but after only 40 years it is not that easy to figure out who did what. It is almost like trying to figure out how the pyramids were built.

I look forward to hearing back from you.

Sincerely,

John R. Adams

John R. Adams, P.E.

Attachments:

1. PDM News July-August, 1968

2. Page 213 of the book – "Men of Steel – The Story of the Family that Built the World Trade Center", by Karl Koch III with Richard Firstman

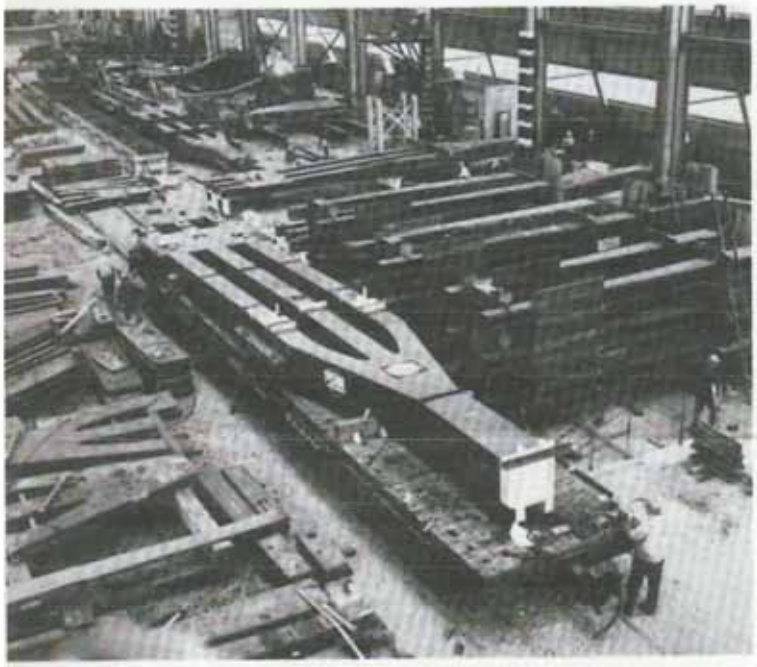
75th
NIVERSARY

PDM NEWS

PITTSBURGH-DES MOINES STEEL COMPANY
ENGINEERS / FABRICATORS / CONTRACTORS

.UME XVIII, NUMBER 4
Y-AUGUST, 1968

FIRST "TREE PANEL" FOR WORLD TRADE CENTER



The first of 160 fork-shaped panels is shown secured on a railroad car at Pittsburgh's Heavy Assembly Shop for shipment to the New York World Trade Center in Manhattan. Also shown are plates and sub-assemblies for other panels, all of which are 56' long and 10' wide. Under a $4 million contract, PDM is supplying these huge 55-ton panels for two 110-story towers of the Center.

The all-welded panels—shaped like giant, three-pronged forks—are by far the most difficult steel fabrication work in the entire project. The top end of each panel consists of three columns at 3'4" centers which converge into one column at the lower end of the panel. When placed in position around the perimeter of the towers, the panels will extend upward from the fourth floor to the ninth floor level. They will be covered with a sprayed-on fireproofing material. An aluminum exterior wall will enclose the 209' square buildings, but the distinctive shape of the panels will remain visible.

In the photo at left, Paul Podolinsky (foreground), David Scrapchansky and an unidentified workman are doing final touch-up painting and securing the panel to the railroad car. Ken Hoedeman, engineer trainee, is department foreman in the Heavy Assembly Shop where this job is being assembled.

PATENT COMMITTEE FORMED AT PDM

In order to effectively pursue the issuance of patents favorable and useful to PDM, a Patent Committee with T. W. Fauntleroy, Chairman; A. H. Nelson, Secretary; and J. H. Adams, has been recently established.

Since strong patent protection of proprietary information and developments is of utmost importance to a technically oriented company such as PDM, the Committee's primary functions are to promote, evaluate, and pursue the issuance of such patents.

In evaluation of an invention, the Patent Committee considers commercial potentials as well as various other factors in determining whether or not the invention warrants the filing and prosecution of a patent application.

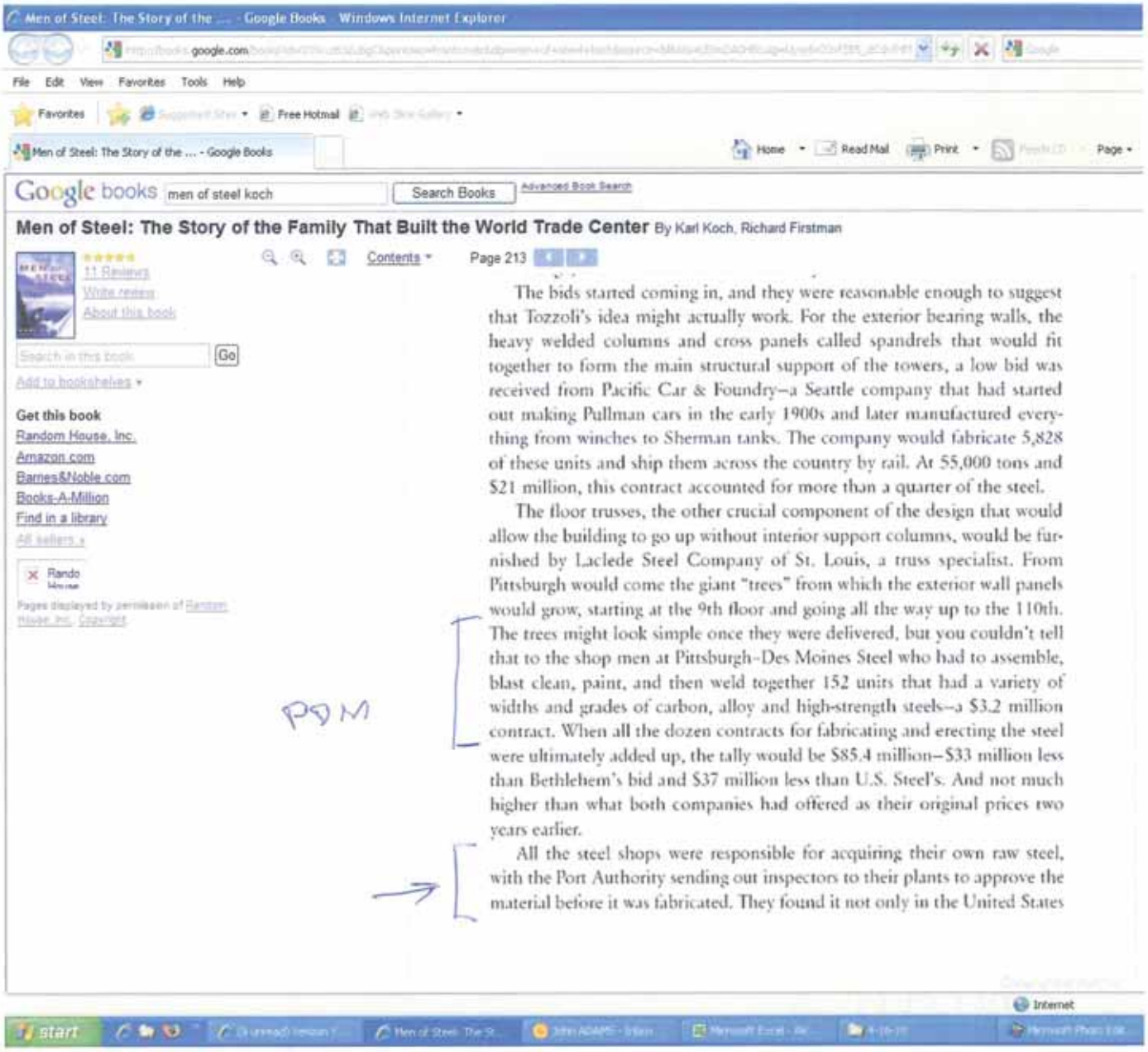
At the present time, nearly fifty U. S. and foreign patent applications covering all aspects of PDM's operations are in process. It is expected that the PDM patent program will grow substantially in the future. To encourage and reward creative work by employees, the Patent Committee has established monetary incentives to be paid to employee inventors upon filing of a U. S. Patent Application and also upon issuance of a U. S. Patent. Any employee who may be involved in the development of a patentable idea may be eligible for the monetary reward.

WECKS TO MANAGE WESTERN DIVISION ERECTION

Effective December 1, Frank E. Wecks will take over as Erection Manager, Western Division. Frank will be returning to his home area, having started in the Santa Clara office as an engineer trainee in 1954 and working there except for short periods until late 1966, when he was transferred to Pittsburgh as project manager for our vacuum chamber job at Rochester, N. Y.

Frank left his boyhood home in Portland, Oregon to serve in the U. S. Navy during World War II. He then worked for a few years before returning to school at the University of California and obtaining his civil engineering degree. He had several assignments with PDM in the west including field engineering on the North American Aviation blowdown wind tunnel, and head of the Cost Control department at Santa Clara.

Enroute back to California, the Wecks family will be vacationing at various spots of interest and Frank will report to Chet Darrow on September 10 to start familiarizing himself with the duties of his new position.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Men of Steel: The Story of the Family That Built the World Trade Center By Karl Koch, Richard Firstman
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The bids started coming in, and they were reasonable enough to suggest that Tozzoli's idea might actually work. For the exterior bearing walls, the heavy welded columns and cross panels called spandrels that would fit together to form the main structural support of the towers, a low bid was received from Pacific Car & Foundry—a Seattle company that had started out making Pullman cars in the early 1900s and later manufactured everything from winches to Sherman tanks. The company would fabricate 5,828 of these units and ship them across the country by rail. At 55,000 tons and $21 million, this contract accounted for more than a quarter of the steel.
The floor trusses, the other crucial component of the design that would allow the building to go up without interior support columns, would be furnished by Laclede Steel Company of St. Louis, a truss specialist. From Pittsburgh would come the giant "trees" from which the exterior wall panels would grow, starting at the 9th floor and going all the way up to the 110th. The trees might look simple once they were delivered, but you couldn't tell that to the shop men at Pittsburgh-Des Moines Steel who had to assemble, blast clean, paint, and then weld together 152 units that had a variety of widths and grades of carbon, alloy and high-strength steels—a $3.2 million contract. When all the dozen contracts for fabricating and erecting the steel were ultimately added up, the tally would be $85.4 million—$33 million less than Bethlehem's bid and $37 million less than U.S. Steel's. And not much higher than what both companies had offered as their original prices two years earlier.
All the steel shops were responsible for acquiring their own raw steel, with the Port Authority sending out inspectors to their plants to approve the material before it was fabricated. They found it not only in the United States
Internet
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