“Setting America’s Greatest Columns”
(Cathedral of St. John the Devine, New York City, New York)

*The Monumental News*
Vol. XXI, No. 1, January 1909, pp. 22-23

The article begins:

“The great Cathedral of St. John The Devine in New York, in many ways the biggest construction job of modern times, has been underway for eighteen years and bids fair to last fifty years longer. The chapel is nearing completion, shown on one of our pictures, is only a small part of the great structure as may be seen in the reproduction of the architect’s drawing. It was formerly estimated that the completed cathedral would cost about $20,000,000, but experts connected with its construction now figure that it will run much her than that….”

This article, which begins on the next page, is presented on the Stone Quarries and Beyond web site.

http://quarriesandbeyond.org/

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June 2016
Setting America’s Greatest Columns

The great Cathedral of St. John the Divine in New York, in many ways the biggest construction job of modern times, has been under way for eighteen years and bids fair to last fifty years longer. The chapel now nearing completion, shown in one of our pictures, is only a small part of the great structure as may be seen in the reproduction of the architect’s drawing. It was formerly estimated that the completed cathedral would cost about $29,000,000, but experts connected with its construction now figure that it will run much higher than that.

The most remarkable part of this great work was the quarrying, transportation, and setting of the eight immense granite columns, the largest in this country and on good authority regarded as the third largest in the world. The largest stone ever quarried is generally accepted to be still lying in the quarry where it was detached in prehistoric times, but never shifted. It may be seen in some ancient workings a few miles from Damascus. It measures 70 feet by 14 feet square, which means 14,258 cubic feet. In the Great Temple of the Sun, at Baalbec, in the same locality, stands a column in position which is 66 feet high, and this, probably, may justly claim to be the largest in the world. The second largest are the monolithic columns in one of the St. Petersburg cathedrals. They are of the rich red granite of Finland, finely polished, and are fifty-seven feet in height. There is also reported to be a monolith, not a column, however, weighing 1,217 tons, serving as the pedestal of the statue of Peter the Great in St. Petersburg. The columns in this American cathedral are 33½ feet high.

The story of the quarrying and transportation of these massive columns in the Cathedral of St. John has already been told in The Monumental News. The original contract required that they be made in one piece, but in turning them, two were broken and the contract was modified to allow them to be made in two sections.

They are of Fox Island, Me, granite, and are from the Vinal Haven quarries of the Bodwell Granite Co. The John Pierce Co., of New York, were the general contractors, and the work of transportation and setting them was so much bigger than anything of the kind before handled in this country, that for three years no one could be found who would undertake the work. Jones Bros. Co., of Barre, Vt., finally assumed this part of the contract, and the work of setting the columns in place in the cathedral was done for them by F. W. Howland, of New York, and Matt Haley, of Barre, Vt.

(photos captions) (top) “Setting the sixth column in Cathedral of St. John. The columns are inside the church; arranged in a semi-circle.” (bottom) “Setting 45-ton section of seventh column. Matt Haley, ‘On the Job,’ at the right of the column.”
The photographs shown herewith for which we are indebted to Mr. Haley, tell a graphic story of this greatest work of its kind, and are the first illustrations of the setting to be published.

There are eight of the columns, each in two sections, set in a semi-circle on pedestals 21 feet high, making the tops of the columns 76½ feet above the ground. The lower section of each column is 39 feet high and weighs 90 tons, the upper section 16½ feet high, weighing 45 tons. The column is six feet in diameter at the base, and has a taper of about ½ inch toward the top. This makes each pillar 53½ feet high with a weight of 132 tons.

The work of making ready the machinery for the setting was begun on May 5 and the last column swung in place November 29. The first column was set in July. The derrick was built, and all the Irons forged on the ground by the same six men who did the setting.

The placing of the first column was the dramatic experience of their lives for several big granite contractors and no precautions were overlooked that could add to the ease and safety of this record job. It took three hours to set the first column, but the experience gained as each successive block landed was so well utilized that it was just 3½ minutes from the time the hoisting engine steamed up for the last one till its top section was placed 76½ feet in the air, six inches above its bed. Nothing stronger or more efficient in the way of hoisting machinery has ever been made in this country than was used in this work. The derrick, 96 feet high, was built of Oregon pine timbers, two feet in diameter, and the elaborate rigging of the pulleys gave 34 purchase parts to the ropes. There were 3,000 feet of ¾ plough steel rope used, the strongest made, and three thirty horse-power hoisting engines furnished the motive power. There was not a slip nor a break anywhere in any of the material or machinery. It was a world's record of big work perfectly and promptly done, and all concerned are entitled to be proud of their part in it. Each column cost $25,000 at the quarries and $5,000 more for transportation and setting, making the eight columns cost $800,000.

The experience of Jones Brothers in hauling the columns through the streets of New York, previously told in these pages, was unique. A traction engine of 32 horse-power was attached to a steam winch connected by wire cables to a specially built truck, which followed about 200 feet behind the winch. The blocks for the cables were anchored by hooks placed in the streets and held down by the rear wheel of the engine, which pulled the truck by these blocks up to the winch. The truck was the most powerful ever built in America and had a capacity of 150 tons. The wheels were made of three-inch oak planks securely bolted together, and had tires of one-inch steel twenty inches wide. The front axle was of seven-inch square steel and the rear one of eight-inch steel.

(photos captions) (top) “The 90-ton section of sixth column suspended over its plinth. Each column 55 ½ feet high and six feet in diameter.” (left) “Design for Cathedral of St. John The Devine. Heins & La Farge, Architects.” (right) “The part under way as it looks now. Great granite columns may be seen through the opening in wall.”