

THE CAST IRON CORNICE OF THE E.V. HAUGHWOUT BUILDING, by David Bühler

AN APPROACH TO THE BUILDING

The E. V. Haughwout Building is located in the SoHo-Cast Iron Historic District in New York. It is a corner building with two main facades. Both are entirely fabricated in cast iron over all the five stories height of the building. At the time of its realisation in 1857 the building was a leading example of technological innovation featuring two major innovations which would later on lead to the development of skyscrapers. One was the installation of the world first passenger elevator in a building and the other was the use of a load-bearing metal frame structure. Eder V. Haughwout, the first tenant of the building, used it as a store for luxurious luxurious furnishings. He exhibited also at the Great Exhibition in 1851, which was held in the Crystal Palace designed by Joseph Paxton, six years before the opening of the Haughwout Building. This might explain Haughwout's interest in the modern and representative construction of the Building in order to attract wealthy clients. Compared to its neighbors in the cast iron district, the Haughwout Buildings appearance is more monumental and elegant. Its design is reminiscent of an Italian palazzo in the Renaissance-Revival style. Horizontally, it is structured in nine bays on the side of Broadway side and fourteen bays on the side of Broome Street side. Each bay is flanked on both sides by tall fluted Corinthian columns on panelled pedestals. In-between are two smaller fluted Corinthian columns connected by a roman arch, framing the window. In front of the window runs a balustrade, which visually forms together with the pedestals of the columns a horizontal band. The design of the repetitive window bays is reminiscent of the National Library of St Mark's in Venice, designed by Jacopo Sansovino. This overlay of columns connected by roman arches and the orthogonal colonnade goes back to the Palazzo Vendramin-Calergi, finished forty years earlier by Mauro Codussi in 1509 also in Venice. Codussi tried to connect the traditional Venetian arcade with the more modern Florentine Renaissance Colonnade by putting these two principles on top of each other. Not only the windows, but also the vertical structure of the Haughwout Building is reminiscent of the representative Palazzo Vendramin. Vertically the Haughwout consists of five stories, each separated by an entablature. The Ground floor, forming the base of the building, has larger openings facing the street. This was as an advantage for the display windows of the store, made possible by the use of cast iron construction. The upper four stories are all of similar form, but from story to story decreasing in height. This gives the building a repetitive stacked appearance, which at the same time also distinguishes it from its renaissance ancestors. On top it is crowned by a bold ornamented entablature. The appearance of the cornice goes back to the general tradition of the Renaissance Palazzi in Italy with examples such as the Palazzo Strozzi in Florence by Simone del Pollaiuolo „Il Cronaca“. The special feature of these cornices are the modillions which form a more protruding overhang of the roof and therefore support the representative presence of the building.

CAST IRON AND THE PROBLEM OF AUTHORSHIP

John. P. Gaynor is recorded as the official architect of the Building. He was born in Ireland in 1826 and was first listed in the city directory of Brooklyn in 1851. Twelve years later, in 1863, he left New York for San Francisco, where he designed the famous Palace Hotel in 1873, which burned down in 1906. Besides these facts only few records exist on the life and work of Gaynor. In New York there is only the Halsey Building in Brooklyn, which could presumably also be attributed to him. Although it is destroyed today, plans and photographs show the facade designed with the same cast-iron modules which were used for the Haughwout as well, but with a different cornice on top. In such a pioneering cast-iron project, the manufacturer of the cast-iron parts has almost the same importance as the architect himself. Commissioned for the construction of the two cast iron fronts was Daniel D. Badger and his in 1856 founded company, „The Architectural Iron Works of New York“. He was a self-made man who started as a blacksmith and ended up as a builder of full iron structures. For his first full front cast iron building in 1853, he used a system of facade parts, which could be bolted together, patented by another cast iron pioneer named James Bogardus in 1849. Testimony of Badgers productivity gave his 1865 issued Catalogue „Illustrations of Iron Architecture“, which showed a lot of plans from projects by his company. The catalogue was published to show the abilities of cast-iron and especially of his company. His foreword contained an extended list, showing the advantages of cast iron, such as material strength, durability, incombustibility, economy and architectural beauty. He claims iron to be capable of finer sharpness of outline, and more elaborate ornamentation and finish than wood. Badger did not just rely on the functional advantages of cast iron and therefore he had an entire architectural department headed by George H. Johnson. The task of these staff architects was to design stock parts and to serve as consultants to architects ordering cast-iron facades from the company. Johnson was born in England in 1830 and worked for Badger until 1862. Examples of his work in Badgers Company are the plans for the Haughwout and Halsey Building, as well as a gothic revival facade for the now lost Grover and Baker Building which might have been influenced by his English origin. In Badgers Catalogue, Gaynor is listed as the architect of the Haughwout Building, while in the case of the above-mentioned similar Halsey Building it's Johnson who is listed as the architect and not Gaynor who presumably was the architect. Although if there is no question that the main architect planned the basic structure and appearance of the building, this raises at least the question, who was the actual designer of the facade. Whatever the circumstances exactly have been, it is to assume that the cast iron companies and their staff-architects presumably had a major influence in the design of cast iron facades and their details. Especially if it comes to the design of smaller parts and details, it is doubtful who has actually been the designer and owned the copyright to use them.

LEGITIMACY OF THE CORNICE IN CAST IRON

The transfer of an aesthetically traditional stone construction to cast iron was controversial at that time. The English theoretician John Ruskin published in 1851 „The stones of Venice“, where he promoted a city made of stone and visually reminiscent of Venice. Despite the Haughwout orients itself on traditional Venetian images, it is directly opposed to John Ruskin's ideas of architecture, as stated in his second major Publication, „The Seven Lamps of Architecture“ in 1849. There, Ruskin criticized the imitation of stone constructions by use of cast iron for moral reasons and mentioned that iron should not be used as a load bearing material in form of columns and lintels. Interestingly the report of the New York Landmarks Preservation Commission states that at the time of the erecting of the Haughwout Building in New York, works in iron were only considered to be „Architecture“, if they imitated forms that had been evolved for stone buildings. There was even a special light stone-tinted paint called „drab“, which was used for cast iron buildings to create rich patterns of transparent shadows. As an ironic twist, that a few stone buildings in the cast iron district later imitated cast iron architecture. But when it comes to the cornice itself, at least in my opinion, Ruskin misses out on two points in his rejection of the cast iron. First, it is not entirely correct, that in cast iron every trace of craftsmanship is lost, although the casting is a process which can be repeated up to a hundred times. The iron is cast in wooden cases called „flasks“, which contain a sand mould giving the iron its final form. Wooden patterns carved by patternmakers were used to mould the desired form into the sand. Exactly this process of carving needed a lot of craftsmanship and knowledge of things such as ornaments, proportion, shrinking in the cooling process, withdrawl of the pattern from the sand etc. Second is the fact, that already the traditional stone cornice takes its form from a wooden roof and thereby transfers a principle from another material for a purely aesthetical reason. So I see the critical point in the consideration of a cornice not in its moral correctness, but more in its formal function as a finishing point crowning the building in a manner appropriate to the buildings general appearance. Despite all these discussions, this actually worked pretty well in the case of the Haughwout Building as a noble Palazzo for selling luxurious goods.

SOURCE MATERIALS

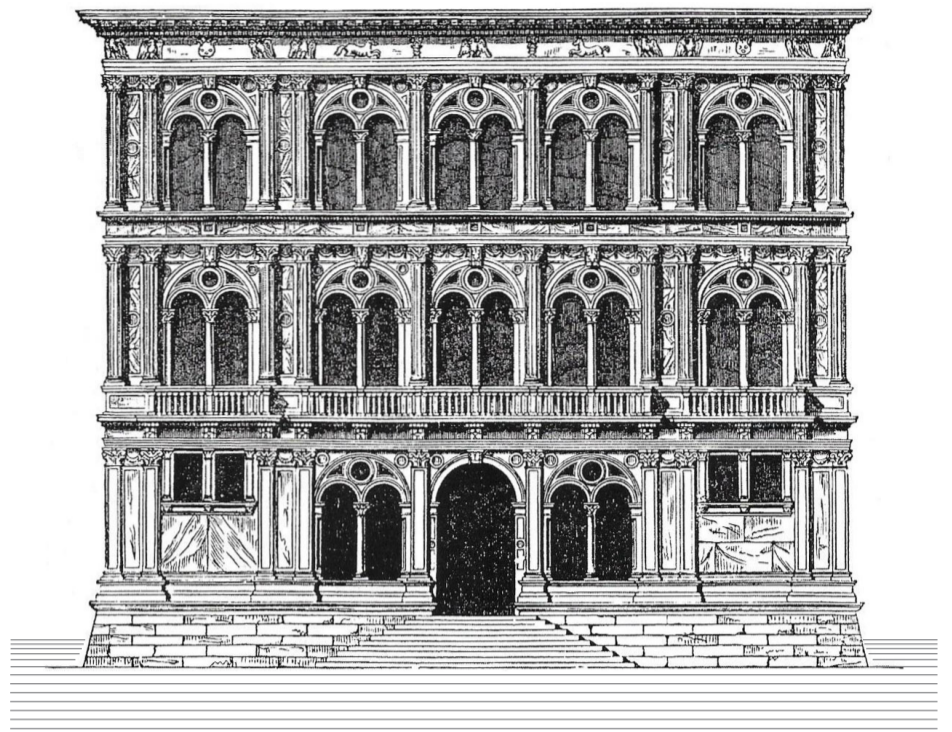
- Badger, Daniel D.: Badger's illustrated catalogue of cast-iron architecture, Dover, 1981, republication of Illustrations of Iron Architecture Made by the Architectural Iron Works of the City of New York, originally published by Baker and Godwin, New York, 1865. New Introduction by Margot Gayle.
- New York Landmarks Preservation Commission:
- SOHO - Cast Iron Historic District Designation Report, The City of New York, 1973
- Ruskin, John: The Seven Lamps of Architecture, George Allen, Sunnyside, Orpington Kent, 6th edition, 1889, first published in 1849
- <http://american-colossus.blogspot.ch/2009/04/george-h-johnson.html>, 11.11.2017
- <http://daytoninmanhattan.blogspot.ch/2016/12/the-lost-grover-baker-bldg-no-495.html>, 11.11.2017
- https://en.wikipedia.org/wiki/E._V._Haughwout_Building
- https://de.wikipedia.org/wiki/Palazzo_Vendramin-Calergi
- http://www.geschichte-venedigs.de/venedig.html#Die_Libreria_Vecchia
- <http://www.nyc-architecture.com/SOH/SOH030.htm>, 10.11.2017



Elevation & Soffit of the Cornice - 1:20



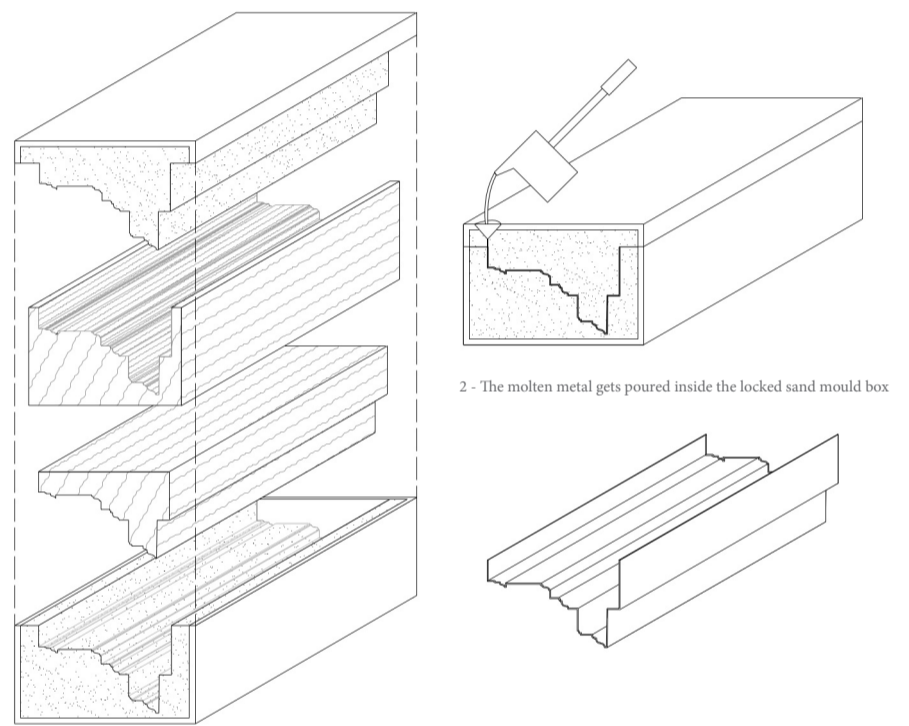
The E.V. Haughwout Building in New York, designed by John P. Gaynor



The Palazzo Vendramin-Calergi in Venice, designed by Mauro Codussi



Daniel D. Badger's Architectural Iron Works as depicted in Badger's Catalogue

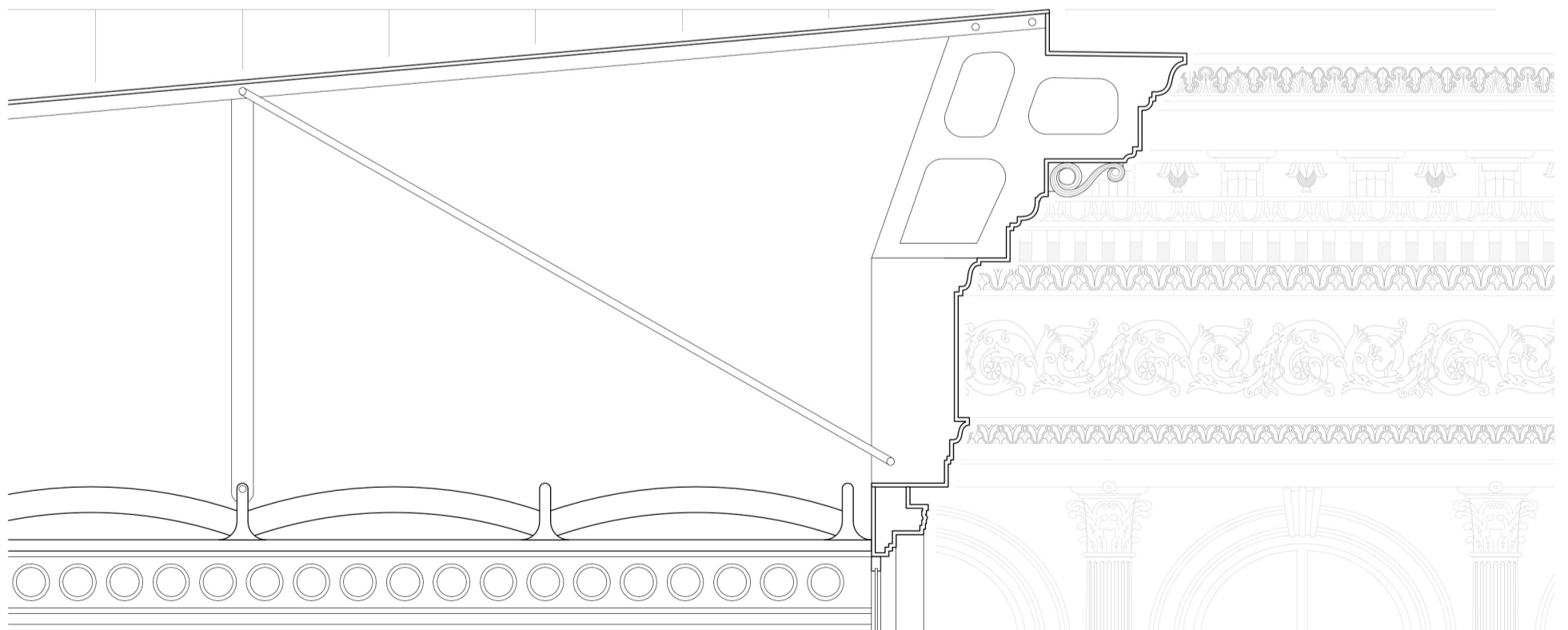


1 - The Negative Pattern is carved in wood to form the top and bottom sand mould

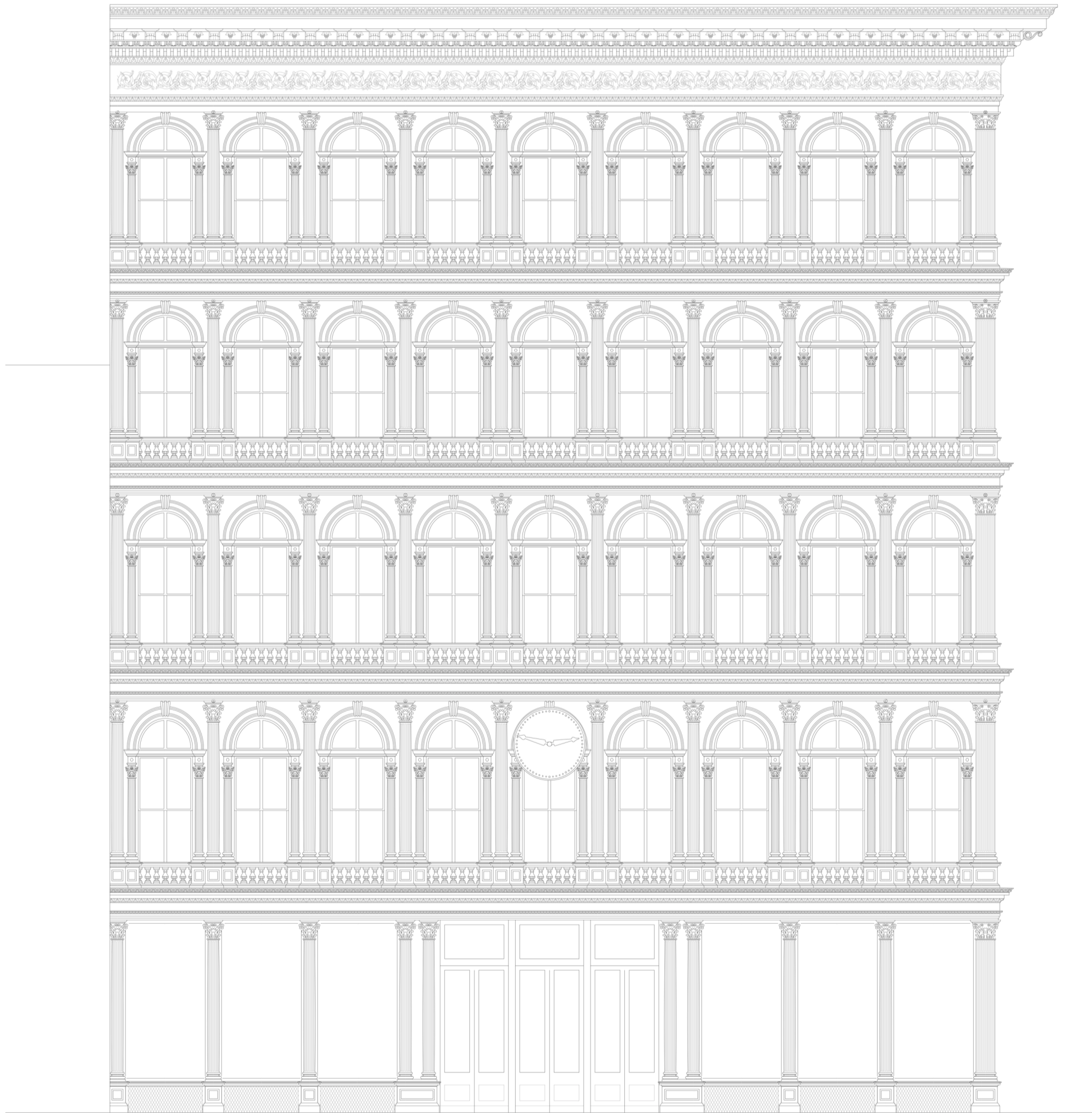
2 - The molten metal gets poured inside the locked sand mould box

3 - The finished cast iron cornice

The casting process of the iron cornice



Assumed constructive section through the cornice - 1:33



Main elevation of the Haughwout Building towards Broadway - 1:100