THE MONTREAL GRAIN ELEVATOR.

In a recent issue we published an article describing the "grasshopper" elevator for the handling of grain in harbors, and especially for raising grain from the holds of vessels and delivering same in any desired locality. We take pleasure now in presenting to our readers one of the most modern and best-equipped storage elevators erected on this continent.

The contract for the elevator was awarded April 16, 1902, by the Harbor Commissioners of Montreal. The design for the elevator was prepared by the Steel Storage and Elevator Construction Company, Buffalo, N. Y., and, before awarding the contract, the plans were submitted to the Minister of Public Works for the Dominion. At his direction, a board of experts examined into the plans very thoroughly and were unanimous in their approval. The time specified for completion of the elevator is August, 1903. The elevator foundations, lower story, and all upper floors are built of concrete. The bins are cylindrical in shape, built of steel plates, with all spaces between cylindrical bins formed into smaller bins, so that the whole area is utilized for storage. The total number of bins is 78; and the total storage capacity, 1,000,000 bushels.

The marine tower is built of steel, and is 23 feet wide, 33 feet long, and 150 feet high; it will be mounted on twenty pairs of car wheels running on four steel rails along the dock.

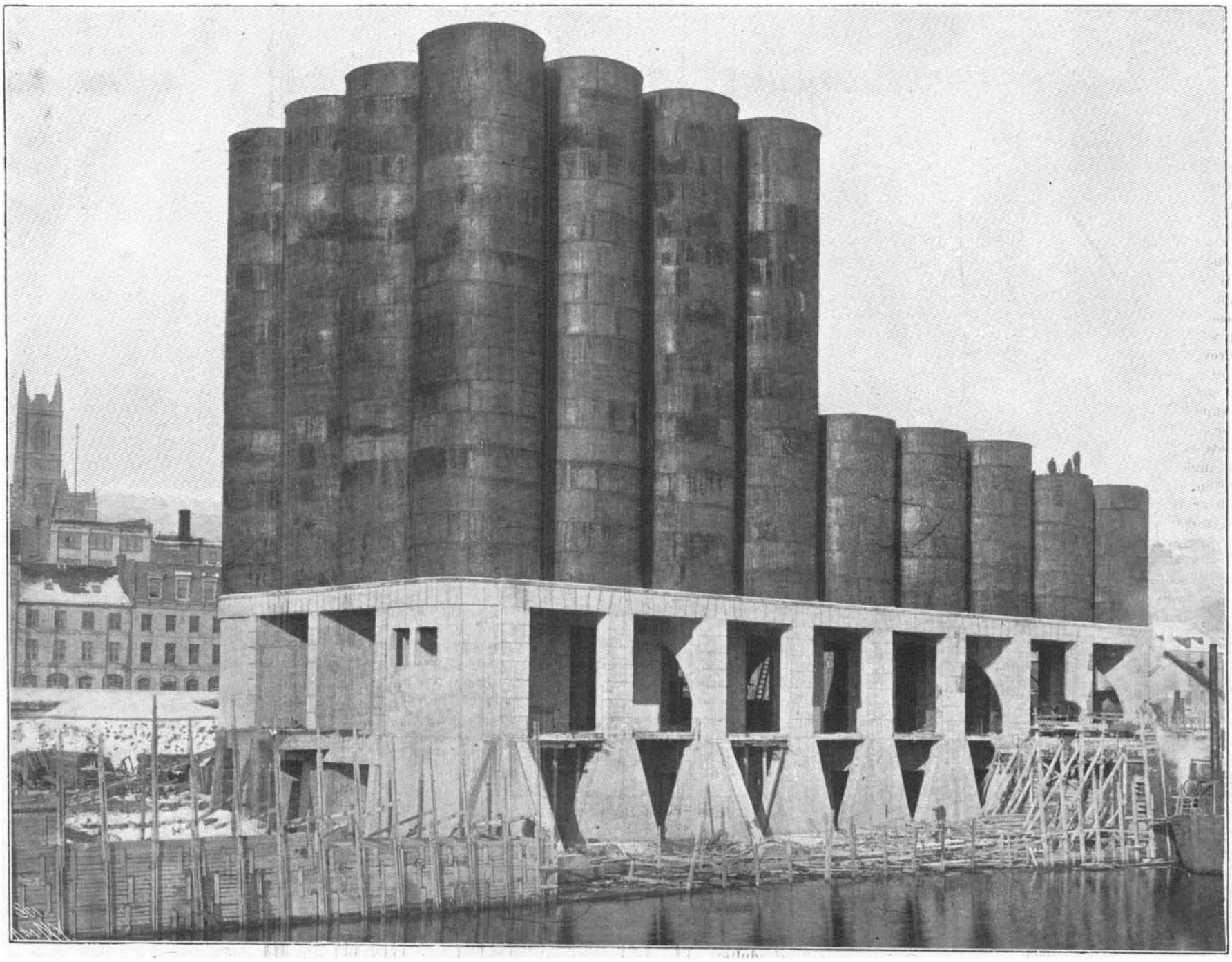
This dock is now being built by the Steel Storage Company. It consists of a middle section in front of the elevator, which will be built entirely of concrete and steel construction, supported on piles. The width of this section of dock is 33 feet, height 25 feet, and length 200 feet. At either end of the middle section is a heavy concrete retaining wall with filling behind, which will form the dock beyond the elevator. The total length of concrete dock is 600 feet, running across the inshore end of the basin between the two adjacent steamship piers. The total height of the concrete work under the elevator from pile heads to bin bottoms is 50 feet. About 25 feet of this will be below grade when the filling is completed. Two car tracks run through the elevator.

This lower concrete story is thoroughly braced by heavy concrete arches running entirely across the building, with buttresses extending out on either side to take the thrust. The space between columns, as shown on our illustration, will be filled by a concrete curtain wall with a double window, three sashes high, in each panel, which will make a very light lower working floor. The entire outer surface of the concrete will be blocked off to resemble massive masonry, and bush-hammered all over. The top of the bins, as shown in the engraving, will be 110 feet above ground level, and the cupola will run 85 feet above this, making a total height from the ground of 195 feet.

This cupola will be structural steel throughout, with concrete floors and roof. The elevator will be equipped to receive grain either from boats or cars, and ship grain either by cars or by means of conveyors to ocean boats lying at their berths at either King Edward, Alexandria, or Jacques Cartier piers, and at the basins between these piers. The total number of berths served by this elevator will be fifteen. The total length of conveyor to be installed in connection with this elevator for loading ocean boats will be over 9,000 lineal feet.

The handling capacity will be: Receiving grain from boats, 18,000 bushels per hour. Receiving from cars, 20 cars per hour. Shipping to vessels by means of conveyors, 80,000 bushels per hour. Shipping to cars, 48 cars per hour. The elevator is designed so that a second movable tower can be built at any time, with the effect of doubling the receiving capacity from boats, or, in other words, raising it 36,000 bushels per hour. It is the intention to build this extra tower as soon as the business of the port demands it. The elevator, if working only one-third of the time during the navigation season of 150 days, would be capable of receiving and shipping more than 18,000,000 bushels.

The whole building will be thoroughly lighted by incandescent electric lights. The elevator will have a complete dust-collecting and burning system. It will also have an electric passenger elevator, washrooms and office for foreman, and all conveniences to make it complete. The cleaners installed in the elevator will be specially constructed of steel throughout, so as to be absolutely fireproof. All machinery in the elevator and conveyors will be driven by electric motors, and the total horse power represented by these motors, when the conveyor system is complete, will be about 2,500. The current will be furnished by one of the power companies doing business in Montreal. In the elevator will be a transformer station and switch room for controlling all the motors.



ERECTING THE MONTREAL STEEL AND CONCRETE GRAIN ELEVATOR.

The World's Inventors.

The Patent Office statistics inform us that the Britons are the most inventive of all foreigners; that for the year 1901, the patents issued to British inventors numbered 999; while the Germans, in spite of the advantages of quieter surroundings, come forward with only 743 inventions. It is granted that the Americans are the leading inventors, and naturally our cousins on the other side are next in line. The Connecticut people are supposed to be the most inventive of all. Benjamin Franklin was a Bostonian, Samuel F. B. Morse and Elias Howe were New Yorkers. George M. Pullman lived in Cook County, Ill. The Maxims are Maine men; Thomas A. Edison comes from Ohio, and the world-frighting Gatling opened his eyes in the South.

Patents tell only a part of the story. They have nothing to say about those wonderful airships (our foremost theorist on air sailing is a Bostonian, Samuel Pierpont Langley) that always go to smash just before whirling around the vast empyrean, or about the still more wonderful perpetual motion machines, or about the yet unattempted desideratum (greatest of all, perhaps)—a machine to rock and sing the baby to sleep. The world is yet at the mercy of infants and nurses. Nor do patents tell of the inventors of gods or goddesses in the East, or of the inventors of romances that publishers will not take a chance with.

As for Connecticut's reputation, however, it will endure forever and brilliantly, if for no other reason than that the prince of Yankee inventors, the Hon. Phineas T. Barnum, author of "The Humbugs of the World," hailed from Bethel and lived to be mayor of Bridgeport and the head of the "Greatest Show on Earth."—Washington Times.

By-product coke ovens are coming more and more into general use, and at nearly all the establishments where they are being utilized, extensions are being made in this particular. In a short time there will be 1,310 of these ovens in use.