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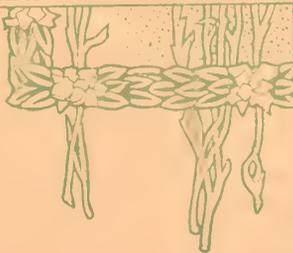
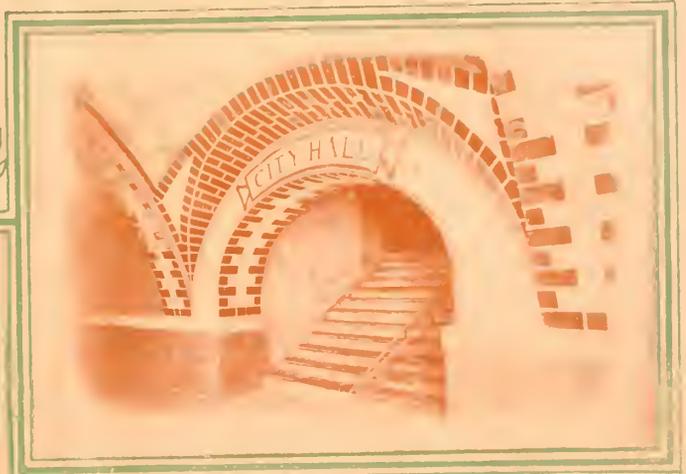
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AUGUST BELMONT



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## THE STORY OF THE SUBWAY.

**I**N the good old days it was necessary to call upon the lady with the magic wand for the attainment of any gift out of reach. To-day, we still seek our good fairy, but her name is Enterprise, and her wand is tipped with Gold.

### THE SCENE OF THE SUBWAY.

New York is the most curiously shaped metropolis in the world. Set upon an island long and narrow and hemmed about on all sides by deep rivers, she is precluded from expanding in any direction save by ferry and bridge. Those who prefer to remain upon the island day and night, find more and more difficulty as years go by in fighting their way from office to home and seek every expedient to lessen the distance between the two. Time was when the slowly dragging horse-car was fast enough for their needs, but as business increased and population swelled New Yorkers grew more and more impatient of the time consumed in their daily journeys back and forth, the trolley was substituted for the horse and the Elevated Railroad for the more easily blocked surface lines.

And still the cry goes up for more speed and less distance and a new method of caring for the weary breadwinners must be found. There is no space left on the surface of the island, and the spider tracks of steel overhead are insufficient for the city's needs. There is but one way left—to tunnel a way between home and office. Tunnels had been used elsewhere—why not here? They had been tried here for other purposes, why not for this?

### THE FIRST NEW YORK UNDERGROUND ROAD.

In 1868 the State Legislature of New York, gave to the New York City Central Underground Company a charter which granted the company unusual powers. The company built the first subway in New York City for local traffic, the present Fourth Avenue surface car tunnel. It was built at the time—and used for several years thereafter—as an extension of the trunk-line roads upon which the cars of the New York and Rapid Transit Railroad were brought singly and by horse-power to their lower depot in Centre Street near the site of the present Criminal Court building.

If a tunnel could be built under Fourth Avenue, why not under Broadway? If a short tunnel could be made useful, why not a longer one?

## BROADWAY TUNNEL *vs.* WINE CELLAR.

These were the questions asked and vaguely answered until one man, more daring than his fellows actually dug his tunnel under the most crowded part of Broadway, at a depth lower than the foundations of the adjacent buildings, and this too, without the interruption of either traffic or business. And still, men of means, who are always suspicious of any new scheme, refused to open their pocketbooks, the project of continuing the tunnel was abandoned, and the excavation already made was used by a wine company as a storage vault.

Still the idea would not down, and though for years it slumbered, it finally awoke with increased vigor and demanded a hearing.

### THE MESSAGE THAT FORESHADOWED VICTORY.

Mayor Abram S. Hewitt in his January message, 1888, outlined the new scheme from which the present underground road became a fact. In this famous document he made this statement:

"It is evident that underground rapid transit cannot be secured by the investment of private capital, but in some way or other its construction must be dependent upon the use of the credit of the City of New York. It was also apparent that if such credit be used, the property must belong to the city. But inasmuch as it would not be safe for the city to undertake the construction itself, the intervention of a contracting party appears to be indispensable. To secure the city against loss, this company must necessarily be required to give a sufficient bond for the completion of the work and be willing to enter into a contract for its continued operation under a rental which would pay the interest upon the bonds issued by the city for the construction and provide a sinking fund for the payment of the bonds at or before maturity. It also seems to be indispensable that the leasing company should invest in the rolling stock and on the real estate required for its power houses and other buildings, an amount of money sufficiently large to indemnify the city against loss in case the lessees should fail in their undertaking to build and operate the railroad."

Our city-loving Mayor was still the practical business man and while he advocated all speed in the pushing forward any crying public need, he was wise enough to consider the ways and means by which the public need was to be supplied.

### COMMON COUNCIL AND LEGISLATURE OBJECT.

Unfortunately for both New York City and the project of the then Mayor, the scheme submitted to the Common Council and the Legislature of the State, was reported upon with disfavor by both parties and nothing further could be done.

Five years later, in 1893, the Chamber of Commerce took up the matter and appointed a Committee of which the members were Ex-Mayor Hewitt and Judge Henry R. Beekman; a second bill was drafted and passed the Legislature in May 1894.

Thus was brought into being what was afterward known as the "Rapid Transit Commission," by whose orders the present subway was begun. This bill as presented, granted a franchise in perpetuity to a private corporation.

At the election of that year, however, the voters of New York City decided that the city should "own, control, and operate all rapid transit roads thereafter erected within the borders of the city," and as soon as the moneyed men discovered that the subway must be owned and controlled by the people, they became unwilling to advance the proper sums for the construction of the road.

Another provision of the law made it obligatory upon the builders of the proposed routes to obtain the permission of the majority of the adjacent property owners and in default of their consent to make application to the Supreme Court for consent to build the road, despite the objections of these owners.

### THE RAPID TRANSIT COMMISSION.

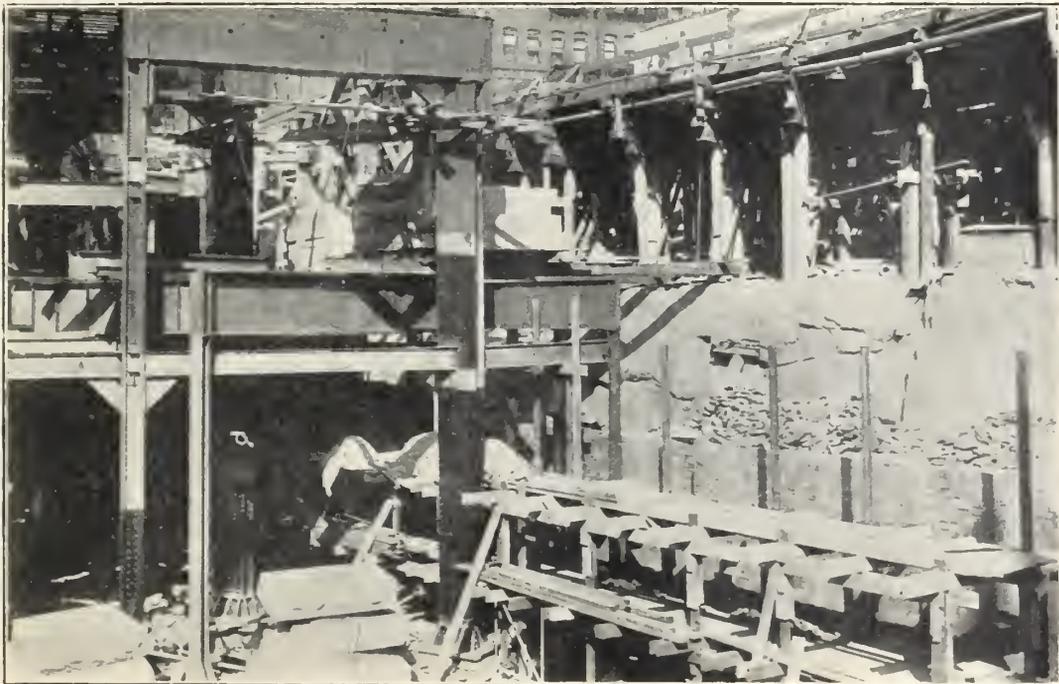
At this time the Rapid Transit Commission consisted of Alexander E. Orr, John H. Starin, William Steinway, Seth Low, John Clafflin, John H. Inman, Thomas F. Gilroy, and Ashbel P. Fitch, Comptroller. The Board made application to the city officials in 1895 for its approval of all lines mapped out by them which was substantially the course now completed. But they were met by new troubles all along the line. Property holders delayed giving their consent, and, while the Common Council and other city officials were willing to do what lay in their power, the Board was obliged to apply to the Supreme Court for its ruling, and the Court promptly decided that the entire act was unconstitutional and also held that the road must extend from one end of the city to the other and must not exceed \$50,000,000 in cost; and, as the route as proposed by the Commission did not extend to the limits of the city, additions to the plan originally proposed had to be made. These additions include a route beginning at the Post-Office with the loop for the trains running from the downtown tracks to the upper, and other changes across the Harlem Ship Canal and a portion of the Spuyten Duyvil Creek to Kingsbridge, etc. The Court finally approved of both the changed route and the manner of construction of the road, and now came the question of properly financing the scheme, and the securing of a proper contractor to carry out the instructions of the Commission.

### CONSTITUTION OF NEW YORK STATE AMENDED.

It so happened that at this time the consolidation of the boroughs of what was called for the first time Greater New York, brought with it such an accumulation of debt that it was found necessary to amend the Constitution of the State in order to extend the city's debt limit. But at the election of November 1899, this amendment was adopted and the Commission was placed in a position to carry out its project. The way was now paved for the consummation of the long-cherished scheme and it became necessary but to select a financial backer and a constructor, for upon these two pillars would rest the ultimate success of the greatest underground railway system in the world. Mr. August Belmont satisfied himself with the details of the scheme as presented and offered himself as the financial agent, and to Mr. John B. McDonald was given the execution of the contract.



ELM AND BOND STREETS



BROADWAY AND 42d STREET

## THE CONTRACTOR AND HIS BID.

But two bids were received; one for \$39,300,000 by Andrew Onderdonk, and the other by Mr. McDonald, for \$35,000,000. It required a volume of 180 printed pages to contain the entire contract between this city and the contractor. Plainly stated, however, the contract provided for the organization of a corporation with a capital of \$6,000,000 for the construction of the road and to enter into a contract with the contractor to promote the construction, to furnish the necessary security for him, and to supply him with all the financial aid necessary to be used in the undertaking. The company was organized by August Belmont & Company and called the Rapid Transit Subway Construction Company. For the said consideration of \$35,000,000, the contractor was to equip the road in everything that was necessary and build it ready for operation. By the terms of the contract, the road was leased by the city to Mr. McDonald for fifty years and required in return a rental equal to the interest payable to the city upon the bonds issued by it to provide means of construction and also to pay one per cent. on the whole amount of the bonds issued for its protection.

## PROFITS TO BE MADE BY THE ROAD.

There was this exception, however. During the first five years, no payment was to be made unless the profits of the road amounted to five per cent. per annum, and further, during the second five years, the payment was to be one-half of one per cent. unless the profits amounted to five per cent. per annum. The contract further provided that the motive power was to be electricity, but that the Construction Company had the privilege of installing new and approved methods of locomotion at any time, by and with the consent of the Rapid Transit Board. The fare from one end of the road to the other was to be five cents, but the road has the privilege of providing parlor cars to the extent of one car per train and in which parlor cars an additional fare may be charged. The contractor has the further option of a new lease of the road for a period of twenty-five years, at a rental to be agreed upon, and the city may buy the equipment at the termination of the lease. By the provision of the contract, the city is also held harmless from all suit for damages, arising from both the construction and the operation of the new road.

## THE BEGINNING OF THE END.

Four years ago last March, Mayor Robert A. Van Wyck turned the first spadeful of earth in the construction of the subway.

The other day a trainload of newspaper men and other invited guests of the road traveled from one end of the road to the other.

Ten thousand men have been working steadily for four years. They have excavated 3,508,000 cubic yards of earth and stone, they have built a tunnel twenty one miles in length. The cost of excavating alone has been one-third of the entire outlay.



BROADWAY AND 96TH STREET



PARK AVENUE, 11ST AND 12D STREETS



ELEVATOR. 104TH STREET AND 8TH AVENUE



BROADWAY AND 100TH STREET

Ingenious methods have been used for the protection of the buildings, pipes, subways and vaults and the surface street-railway lines and surface traffic in general.

The subways of Paris and London have been built through clay and that of Boston entirely through earth. In the construction of the subway of New York, it has been necessary to cut away nearly a million cubic yards of rock in the open and a half a million cubic yards of rock by tunneling.

In the construction of this new highway, there have been used over seventy-one thousand tons of steel and nearly ten thousand tons of cast iron; over half a million yards of concrete and nearly a million square yards of waterproofing. But a track has been constructed that is over three hundred thousand lineal feet in length, seven-tenths of the entire length being underground and sixty thousand feet overhead.

#### THE COST TO THE CITY.

The cost to the city will be in the neighborhood of \$40,000,000 which sum is entirely covered by bonds.

Mr. John G. McDonald, the contractor, is expending nearly \$20,000,000 more for equipment; it being understood that the McDonald Company will operate the road for fifty years to come. During this fifty years, however, the Company is to pay to the city the \$40,000,000 advanced, and at the completion of this term of half a century, the city will be the possessor of the subway and the equipment is to be turned over at a fair price.

#### HOW THE TUNNEL WAS BUILT.

In the formation of the tunnel, the usual method is known as the "Cut and Cover" method. In this one side of the street is blasted out to the depth of some thirty or more feet and one-half of the subway built in the trench as dug. It was necessary, however, in some places to open both sides of the street at once and often in places where the surface-car lines had to be supported bridges and trestles and long lines of streets of boards were constructed.

As completed, the main part of the subway is built in a shallow trench, with a roof to support the surface of the street. This has been considered preferable to the deep tunnels used in London and Paris. In places, however, the road has been obliged to cut through rocky hills and twice it has had to pass under the bed of a river, and here, of course, a deep tunnel became necessary.

#### NEW YORK'S BUSIEST THOROUGHFARE.

Of course lower Broadway is one of the busiest of streets and it would be impossible to obstruct its traffic. During the building of the tunnel under this thoroughfare, crowds were passing overhead in utter ignorance of any excavating going on beneath their feet. The ground is very soft at this point and the workmen were thus able to make steady progress, and put in braces to support the street as fast as they proceeded.



1 81ST STREET SEWER

2. 110TH STREET SEWER

3. 157TH STREET SEWER

How quietly they have worked is illustrated by this incident. A gentleman vitally interested in the work and whose office is on this lower Broadway, phoned the subcontractor having that part of the work in hand, and complained that this part of the work was not pushed fast enough and added that if he didn't start work soon, he would not get his section done on time. "Don't worry," was the reply, "I have had two hundred Italians under your feet day and night for these many weeks and my excavation is nearly completed." And thus in some places the earth had been hollowed out under streets while the passers-by were ignorant that any but the merest preliminary work had been or was being done. In others the streets lay open with all the secrets of badly built and badly cared for underground laid bare to the gaze of the curious.

### BEAUTY THE HANDMAID OF UTILITY.

For once, beauty has been made the handmaid of a great municipal undertaking. Architects, designers, painters, have been called in with suggestions, advice and practical demonstration of what could be utilized in William Morris' idea of beautifying the useful. Colored tiles decorate the walls of the stations. Letters and symbols in every corner, in every detail, assist the traveler in the detection of the number and name of the station at which he is alighting. Pottery, faience, and marble are used in numberless tints and designs. Glass roofs give the stations plenty of light which is diffused from the glazed tiles and various decorations. Every possible means of decorating and beautifying the subway has been made use of.

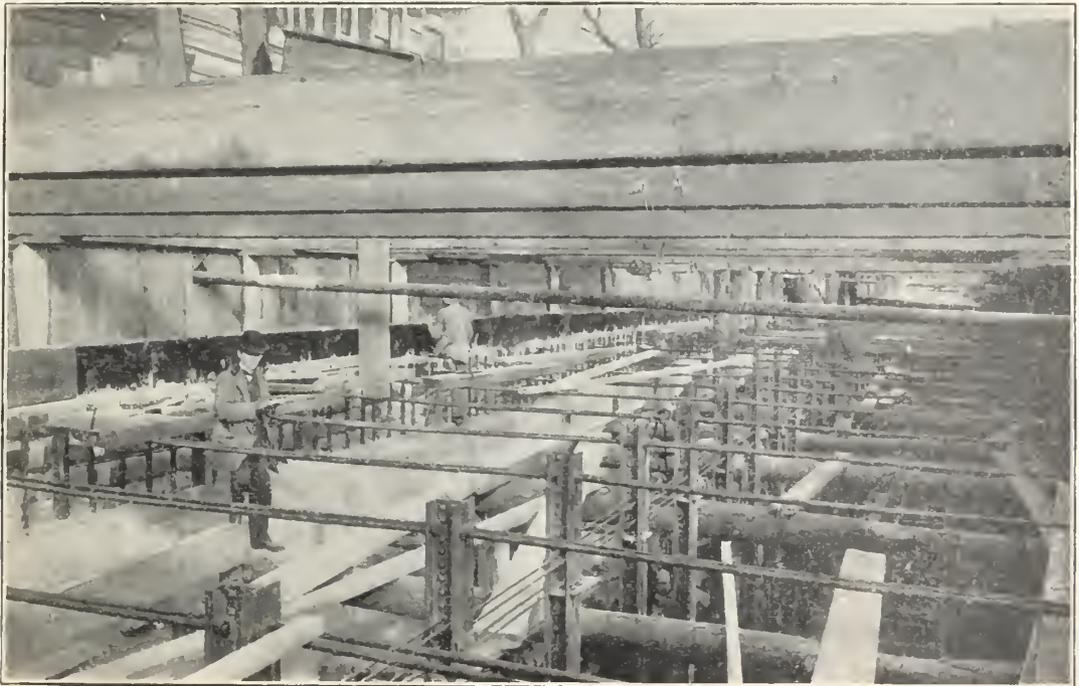
Our morning and evening rides through the tunnel will be pleasure excursions through long, broad, airy passages, relieved here and there by commodious, well-lighted rooms, colored in a kaleidoscopic variety of tints.

### THE ARCHITECTURAL LEAGUE'S TRIBUTE.

At the annual exhibition of the Architects' League last winter, a number of signs and numbers of the stations were on view and the various sizes and colors and general idea were criticized by those who had in mind the stereotyped blue and white lettering of our present elevated road. As a matter of fact, no two stations look alike, and in many places the decorations tell a story in a pictorial way. For instance, the decoration at Astor Place is a beaver, suggesting the story of the Astor family. At Bleecker Street, the name in large letters is inserted in a broad blue panel and an artistic B is woven here and there in the frieze. At Fourteenth Street there is a shield carried by an eagle. At Twenty-third Street, there is a wall coating of pink Georgia marble and innumerable 23s in plaques.



BROOME AND ELM STREETS



LENOX AVENUE AND 141st STREET

## DISADVANTAGES OF SHALLOW SUBWAYS OBLIATED.

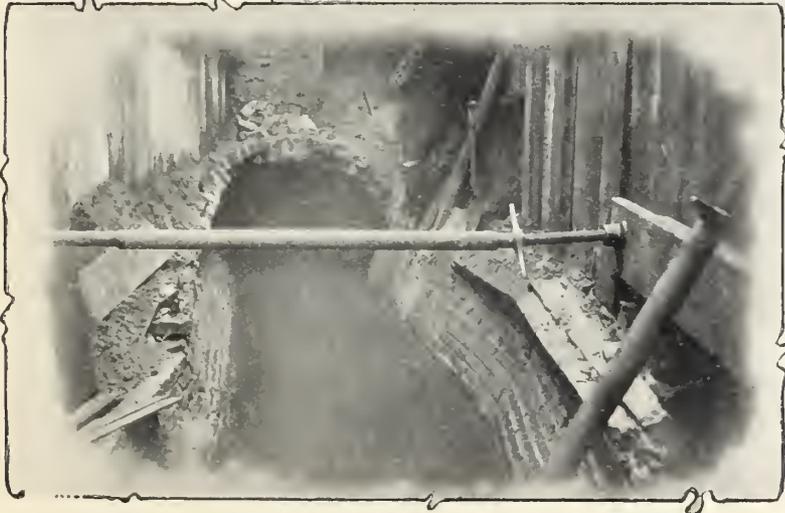
In the sections now completed, a form of construction has been employed that is designed to obviate the disadvantages of the shallow subways previously built. The subway must be dry. Others have been known to leak, because, though waterproof on the bottom, they had not been waterproofed to the top on the sides, or on the roof. The New York Subway, however, is built with top, sides, and bottom of concrete and waterproofing in alternate layers, incasing a framework of steel beams. The roof is supported by steel pillars five feet apart and set in parallel rows in concrete top and bottom. The subway is therefore, a long corridor, thoroughly waterproofed. Its shallowness makes it possible to do away with artificial ventilation. It is calculated that enough air will enter at the stations to keep the tunnel fresh and sweet, and that the current of air caused by the cars will keep the air in motion.

## CHANGES IN THE ORIGINAL PLAN.

Since the first agitation by the public at large for an extension of the system, many additions have been made to the original loop. As now planned, the subway connects with a tunnel passing under the East River to Brooklyn, with stations at Brooklyn Borough Hall, Atlantic Avenue, Prospect Park, etc., making provision for rapid transit to the Borough of Brooklyn by numerous arteries of the original subway system, all connected with the original plant devised solely for the Boroughs of Manhattan and The Bronx. However, the Board has granted a franchise for a tunnel system passing from Weehawken in New Jersey, across the North River under Manhattan Island to the Borough of Queens by a double tunnel under the North River, ending in a massive depot covering the blocks bounded by Seventh and Ninth Avenues and Thirty-first and Thirty-third Streets. From this underground station three tunnels are to extend under the East River into the Borough of Queens, giving the Pennsylvania Railroad Company direct communication not only with Manhattan Island, but with the extremities of Long Island. Furthermore, there is a further tunnel completed by the New York and New Jersey Railroad Company and which has been over twenty years in building, that enters Manhattan at Morton Street. This tunnel is to be used for trolley cars only.

## PRACTICAL NEEDS OF RAPID TRANSIT.

The question of rapid transit is one of the most puzzling of all questions to those who live in large cities. The means of travel between one's home and one's place of business becomes one of the economies of the citizens of all large communities. Most cities of any size are so situated that lines of travel may be extended in any and every direction. London, Paris, Vienna, Chicago, Boston—these are examples where the city proper, the business center, is but a point from which radii extend in every direction and those who live within a circle of five,



1. SEWER - 42<sup>D</sup> STREET AND 6<sup>TH</sup> AVENUE    2. 45<sup>TH</sup> STREET AND BROADWAY  
3. BLEECKER STREET SEWER

ten or twenty miles, secure what is popularly known as rapid transit between their places of business and their homes. Manhattan Island, however, is of such peculiar formation that traffic of this kind must needs go in one direction, north and south. We go north to our homes and south to our places of business. It has become, therefore, one of the most puzzling questions of the day, to accommodate the thousands of travelers bent upon the same journey at the same moment. Take the surface roads for example: The various surface lines running north and south carry between the hours of seven and nine 100,000 persons in one direction, south, and between the hours of five and six carry these same 100,000 persons back to their homes.

#### WHAT THE SURFACE CARS CARRY TO-DAY.

It is estimated that on an average, seventy-six thousand persons travel on these same surface roads from their homes to places of amusement every evening in the year and back again after the performances are over. This of course, is making no allowance on the elevated roads during these same hours. These two combined means of transportation have been proven to be insufficient for those who would live on or near Manhattan Island, and consequently numbers of suburban places in Jersey and Long Island separated by ferry and bridge from the business center of the town have been selected by those who have business interests on lower Manhattan Island. So soon as it was found that both the surface and elevated railroads were insufficient for the practical needs of the city, various schemes for underground transportation were conceived and presented for practical solution.

#### SPEED OF EXPRESS TRAINS.

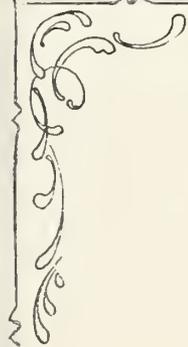
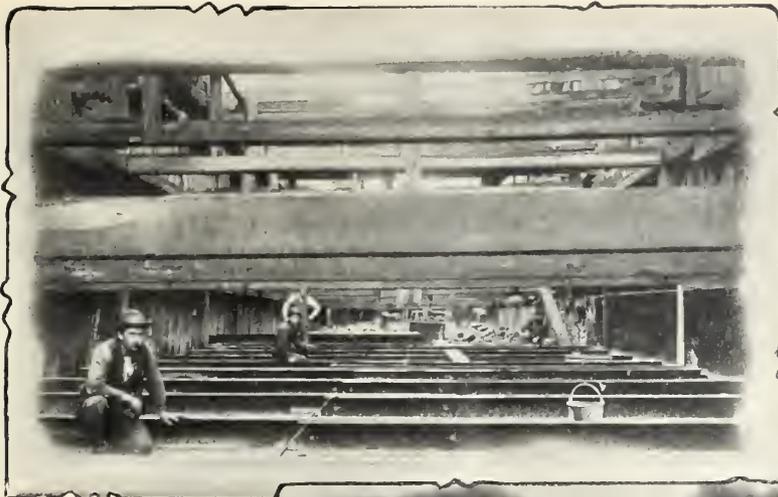
Express trains making thirty miles an hour are run on the subway tracks between One Hundred and Forty-fifth Street and City Hall, stopping at stations a little over a mile apart. The local trains, which make about fifteen miles an hour, stop every few blocks.

The express stations are: Brooklyn Bridge, Fourteenth Street, Forty-second Street and Madison Avenue (Grand Central Station), Seventy-second Street and Ninety-sixth Street.

Electric cars in trains running on the third rail system are used in the tunnel.

#### WHO ARE THE COMPANY'S DIRECTORS.

The original Rapid Transit Subway Construction Company, behind which is at present the Interborough, but which is still the actual constructing company, had as its officers: August Belmont, President, Walter G. Oakman, Vice-President; John F. Buck, Treasurer, and H. M. Fisher, Secretary.



1—HOWARD AND ELM STREETS      2—BROADWAY AND 64TH STREET  
3—BROADWAY AND 135TH STREET

The Interborough Rapid Transit Company, which will operate the road when finished, has for its officers: August Belmont, President; E. P. Bryan, Vice-President and General Manager and the same persons for Treasurer and Secretary as the Construction Company; its consulting engineer is George Gibbs; its master mechanic, W. P. Thompson; its signal engineer, J. N. Waldron, and his assistant, W. S. Sutton.

#### CHARACTER AND EXECUTIVE ABILITY OF THE CONTRACTOR.

Money, great power though it be, has its limitations; it will not buy character, brains nor the splendid executive ability necessary to carry out the stupendous enterprise now established from a financial standpoint.

A novice, too, could not be selected for the work, for it was most essential that a man whose previous career and record for the successful accomplishment of large engineering exploits were such as to inspire the public and the financial backers with confidence in his ability to create, promote and successfully terminate the greatest underground enterprise ever conceived of in all history.

In all the great contracting world, only two men had had the temerity to come forward and make a bid for the subway, and to Mr. John B. McDonald, whose estimate was four million dollars lower than his competitor's, was awarded the contract.

#### THIS BUILDER A FAMILIAR FIGURE.

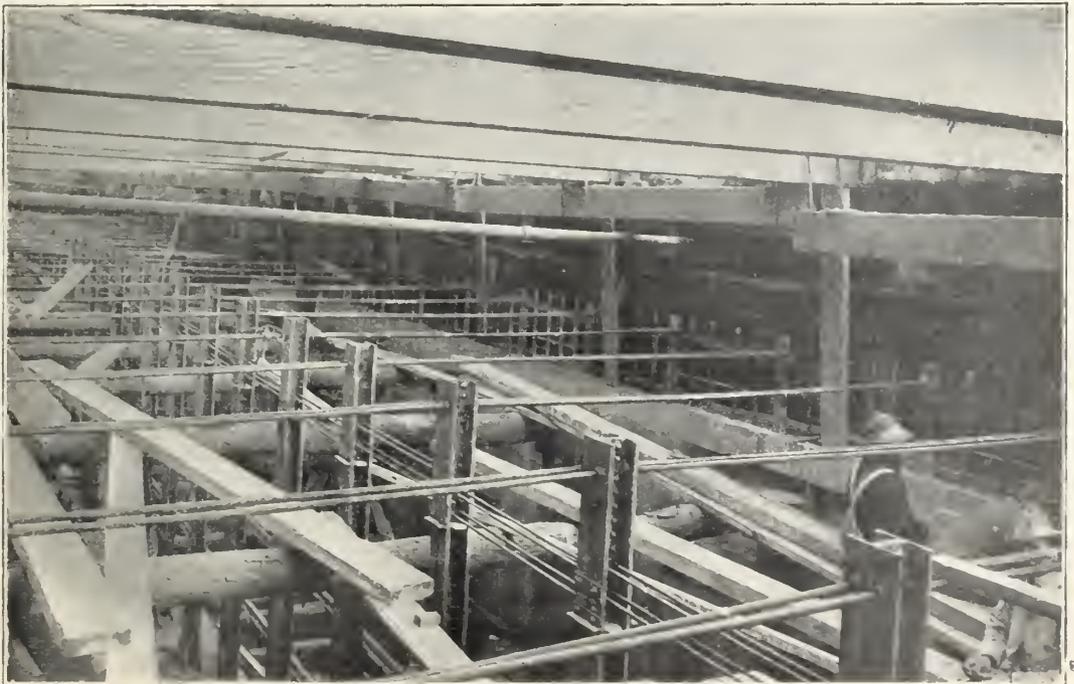
For years, Mr. McDonald had been a familiar figure in public life; from the time that he contracted in connection with Messrs. Dillon, Clyde & Co. for the building of the northern part of the tunnel of the New York Central Railroad between Ninetieth and One Hundredth Streets.

Following this, he assisted in the construction of the Boston and Hoosac Tunnel. After supervising the building of a bridge across the Hudson River, Mr. McDonald turned his attention to railroad construction and contracted with the Delaware, Lackawanna and Western Railroad to extend the road from Binghamton to Buffalo. The West Shore and Baltimore and Ohio Railroad companies also secured his services and the extension of the latter road from Baltimore to Philadelphia was done under his supervision. He was also successful in securing the four-million-dollar contract from the Illinois Central. Then the Pennsylvania Railroad and the Potomac Valley needed branches, and Mr. McDonald was again called to the work.

One of his greatest achievements in the line of railroading, with the exception of the subway, was the building of the Baltimore Belt Railroad which carries the Baltimore and Ohio Railroad under the streets, houses and great buildings of the city of Baltimore. This enterprise was carried on under the name of the Maryland Construction Company, with whom were associated John K. Cowan, the President of the Baltimore and Ohio Railroad Company and Samuel Rhea, now Vice-President of the Pennsylvania Railroad Company.



BROADWAY AND 71<sup>ST</sup> STREET



LENOX AVENUE AND 140<sup>TH</sup> STREET

## JEROME PARK RESERVOIR.

But it was not alone in tunneling and in railroad construction that Mr. McDonald had displayed his genius. His splendid ability was also recognized in the working out of the gigantic enterprise—the building of the Jerome Park Reservoir, begun in 1895. The original contract was for \$6,000,000, but will probably exceed that amount before completion.

The outline of the reservoir is somewhat unique, being irregularly oblong, about one mile long and one and one-half miles in width, covering an area equal to three hundred acres. It forms almost an artificial lake, bounded on the north by Van Cortland Park, Kingsbridge Road on the south, Jerome Avenue on the east and Sedgwick Avenue on the west. Its estimated capacity is 2,000,000,000 gallons of water.

There could surely be no mistake in choosing a man with this record to carry out the building of the subway, for whatever obstacles were met with in the course of construction, the public would feel confident that Mr. McDonald would find them quite surmountable.

## SOMETHING ABOUT THE SUBWAY BACKER.

Although the subway project had been before the public some ten years, its financial status was still discouragingly dark in the fall of 1899. The powers that be in the world of capital, realizing that a perpetual franchise would not be granted to any one corporation and that this new thoroughfare would be distinctly under the control of the city, were far from enthusiastic regarding the financial backing of the underground enterprise.

“To Harlem in fifteen minutes” was still a desirable but extremely vague possibility. The Board of Rapid Transit Commissioners had been most active and persevering in their appeals to the moneyed powers controlling the New York Central systems and the Metropolitan Street Traction interests, but these financiers still failed to be convinced of the profit and practicability of this much talked of scheme.

However, a great opportunity is seldom lost for the lack of a great individual, and so, at the critical moment, when the spirits of New Yorkers were at their lowest; when it looked as though all the cherished plans would exist only on paper, August Belmont, head of the banking firm of August Belmont & Company announced his willingness to capitalize the new project and assume the financial responsibility attending such a step.

## A CHANGE IN THE SITUATION.

The situation at once changed, and although now January, all the formalities incidental to the commencement of work on the subway were covered and the first movement along the line of construction was made by the turning of a shovel of earth by ex-Mayor Robert A. Van Wyck, on the twenty-fourth day of March, 1900, in the midst of most elaborate ceremonies and in the presence of crowds of people.



PARK AVENUE, EAST HEADING



BROADWAY AND 50TH STREET

There can be no doubt but that the success of the tunnel scheme is directly due to Mr. Belmont's enterprise in this matter of municipal importance.

August Belmont is a New Yorker by birth and from a boy has had unsurpassed training in financial affairs, his father, the late August Belmont, being for many years one of the recognized leaders in the financial world.

After graduating from Harvard College in 1875, Mr. Belmont identified himself with his father's banking house, and his natural ability in connection with his hard work and careful attention to details made it possible for him to assume entire charge of affairs and become the head of the banking house following the death of his father in 1890.

### AS A RAILROAD MANAGER.

In addition to the subway, many railroads throughout the United States owe their reorganization and prosperous condition to his skilful management and untiring efforts.

While Chairman of the Board of Directors of the Louisville and Nashville Railway, he made that system one of the chief in this country.

In banking institutions, Mr. Belmont's ability is also recognized and he is at the present time President of the First National Bank of Hempstead and Director of the National Park Bank, besides being President of the Interborough Rapid Transit Company and the Rapid Transit Subway Construction Company.

### NEW YORK THE MECCA OF SUCCESSFUL ENTERPRISE.

Philosophers tell us that the ancient Greeks were the most cultured of all races, because they flocked to the cities; because instead of living on isolated farms, and in the suburbs, they congregated in populous towns and insisted upon a constant interchange of ideas and opinions. Perhaps it may not be truthfully claimed that New York has become the Mecca of culture and refinement, but it is rapidly assimilating the wealth and the wealth-makers of the world, and it is here that the gold-tipped wand of Enterprise is surest of effecting magic cures. New Yorkers are wont to boast of their superiority over the rest of mankind, and at last they have good reason for their boast. In an incredibly short time, and in spite of popular prejudice, and legal and civic hindrance, it has accomplished one of the most stupendous feats of business and mechanical engineering the world has ever seen, and the beauty of it all is that its brains and its millions have co-operated in the amelioration of present conditions, and for the purpose of giving the most vital assistance to its citizens, in their hurly-burly existence.

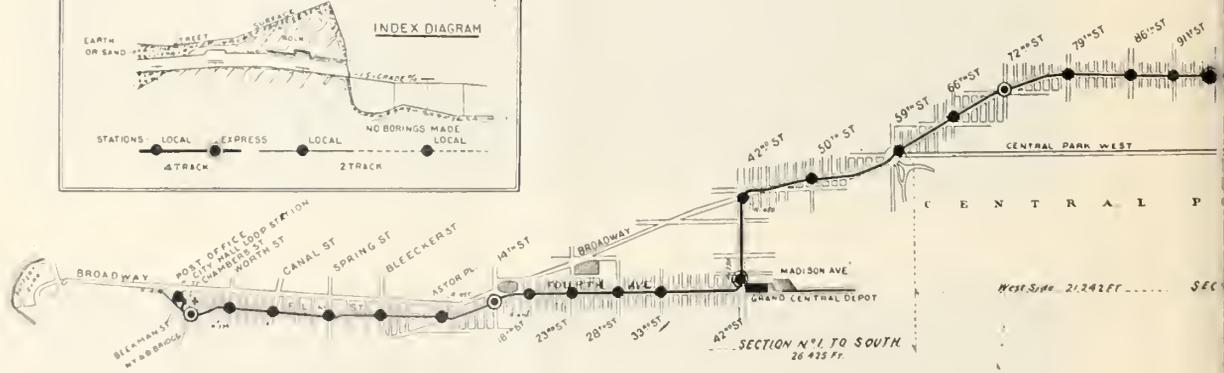
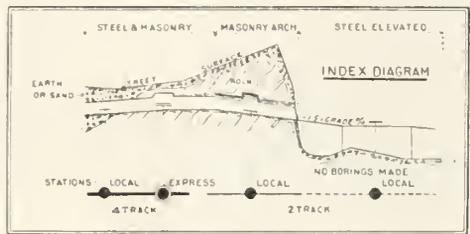
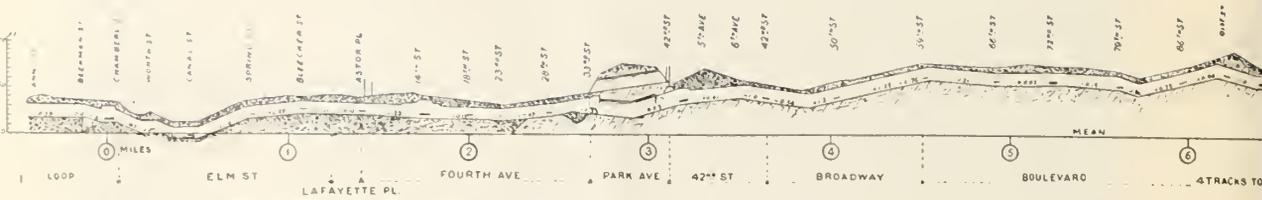
The New York Subway is an accomplished fact. The joke of "fifteen minutes to Harlem" has become a reality. The home and the office of the Manhattan Islander have been brought within the shortest possible distance of each other and the road has been beautified for the traveler.



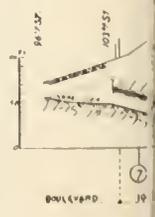
STATION—BROADWAY AND 50TH STREET

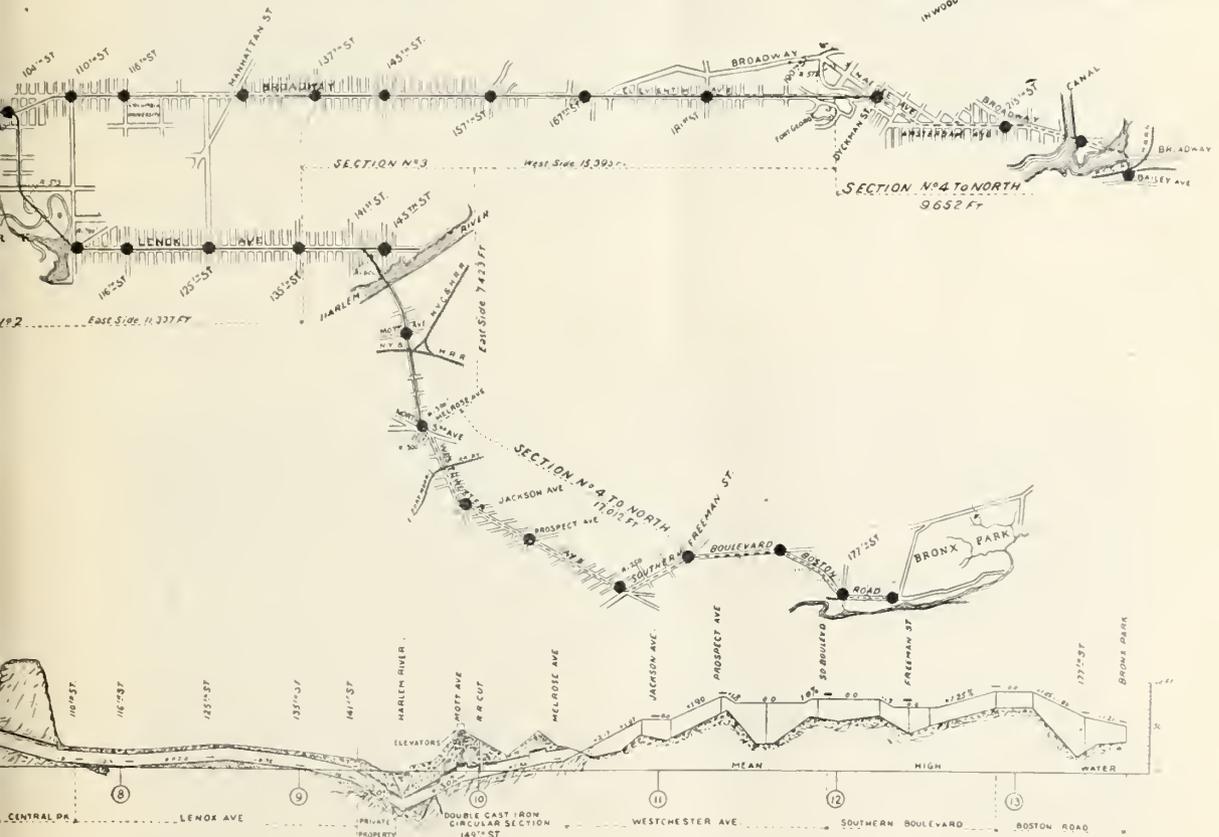
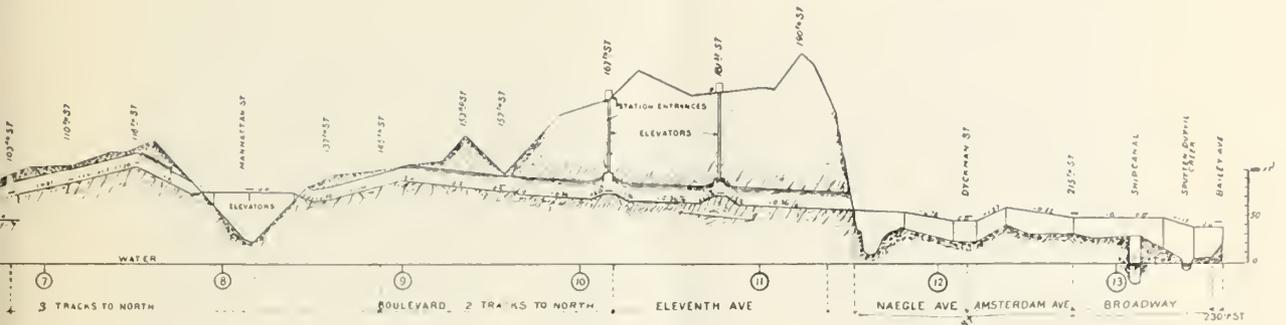


34TH STREET TUNNEL



MAP AND PROFILE  
OF  
RAILWAY





## SUB-CONTRACTORS AND SECTIONS.

### SECTION 1.

City Hall Loop, Park Row and Centre Street to center line of Chambers Streets. Degnon Contracting Co., Sub-Contractors. Open cut. Nature of excavation—earth.

### SECTION 2.

From the center line of Chambers Street along Centre Street and Elm Street to the center line of Great Jones Street. Degnon Contracting Co., Sub-Contractors. Open cut. Nature of excavation—earth.

### SECTION 3.

Lafayette Place from the center line of Great Jones Street to Astor Place, and Fourth Avenue from Astor Place to 100 feet north of the center line of Thirty-third Street. Holbrook, Cabot & Daly, Sub-Contractors. Open cut. Nature of excavation—rock and earth.

### SECTION 4.

From 100 feet north of the center line of Thirty-third Street along Fourth Avenue to the center line of Forty-first Street. Ira A. Shaler, Sub-Contractor. Rock tunnel.

### SECTION 5-A.

From the center of Forty-first Street and Fourth Avenue along Fourth Avenue to Forty-second Street, along Forty-second Street to Broadway, along Broadway to the center line of Forty-seventh Street. Degnon Contracting Co., Sub-Contractors. Open cut. Nature of excavation—earth and rock.

### SECTION 5-B.

From the center line of Forty-seventh Street and Broadway to the north end of the station at Columbus Circle, Sixtieth Street and Broadway. Naughton & Co., Sub-Contractors. Open cut. Nature of excavation—earth and rock.

### SECTION 6-A.

From Sixtieth Street and Broadway to Eighty-second Street and Broadway. William Bradley, Sub-Contractor. Open cut. Nature of excavation—earth and rock.

### SECTION 6-B.

From Eighty-second Street and Broadway to the center line of One hundred and fourth Street and Broadway. William Bradley, Sub-Contractor. Open cut. Nature of excavation—earth and rock.

### SECTION 7.

From a junction with the main line on Broadway easterly under private property to One hundred and fourth Street, along One hundred and fourth Street to Central Park, under the northwest corner of Central Park to the center line of One hundred and tenth Street and Lenox Avenue. Farrell & Hopper, Sub-Contractors. Rock tunnel.

### SECTION 8.

From the center line of One hundred and tenth Street and Lenox Avenue to 100 feet north of the center line of One hundred and thirty-fifth Street and Lenox Avenue. Farrell & Hopper, Sub-Contractors, in sub-let to John C. Rodgers. Open cut. Nature of excavation—earth.

### SECTION 9-A.

From a point 100 feet north of the center line of One hundred and thirty-fifth Street and Lenox Avenue to the center line of Girard Avenue in the Borough of The Bronx. McMullen & McBean, Sub-Contractors. Harlem River Tunnel.

### SECTION 9-B.

From the center line of Girard Avenue to the west building line of Brook Avenue and Westchester Avenue. John C. Rodgers, Sub-Contractor. Open cut. Nature of excavation—earth and rock.

### SECTION 10.

Viaduct on Westchester Avenue, Southern Boulevard and Boston Road, from Brook Avenue to Bronx Park. Terry & Tench Co., Sub-Contractors, steel-work; E. P. Roberts, Sub-Contractor, foundations.

### SECTION 11.

From the center line of One Hundred and fourth Street and Broadway to 10 feet north of the south side of One hundred and twenty-fifth Street on Broadway. John Shields, Sub-Contractor. Open cut. Nature of excavation—earth and rock.

### SECTION 12.

Manhattan Valley Viaduct, from One hundred and twenty-fifth Street to the north building line of One hundred and thirty-third Street on Broadway. Terry & Tench, Sub-Contractors, steel-work, E. P. Roberts, Sub-Contractor, foundations.

### SECTION 13.

From the north building line of One hundred and thirty-third Street and Broadway, along Broadway to Eleventh Avenue, along Eleventh Avenue to the center line of One hundred and eighty-first Street. James Pilkington, Sub-Contractor. Rock tunnel.

### SECTION 14.

From the center line of One hundred and eighty-first Street and Eleventh Avenue, along Eleventh Avenue to Hillside Avenue at Fort George. John B. McDonald, Sub-Contractor. Rock tunnel.

### SECTION 15.

Viaduct from Fort George northerly to The Bronx at Kingsbridge. Terry & Tench, Sub-Contractors, steel-work, E. P. Roberts, Sub-Contractor, foundations.



LEAVING HARLEM VIADUCT AND RE-ENTERING TUNNEL



ELM AND BOND STREETS.

## FACTS WORTH KNOWING.

Time required to construct subway—four years.

Number of men employed .....	10,000
“ “ cubic yds. of excavation .....	3,508,000
Viz.: cubic yards of earth .....	2,137,000
“ “ “ rock; open cut .....	963,000
“ “ “ “ tunnel .....	408,500
Cost of excavation about .....	\$13,000,000

### MATERIALS USED.

71,000 tons of steel.	
10,000 “ “ cast iron.	
580,000 cubic yards of concrete.	
1,000,000 yards of water-proofing.	
1,000,000 barrels of cement.	
Length of track—lineal feet .....	305,000
Viz.: underground “ “ .....	245,000
elevated “ “ .....	60,000

### BIDS SUBMITTED FOR NEW YORK SUBWAY AND EXTENSION.

Andrew Ouderdord .....	\$39,300,000
John B. McDonald .....	35,000,000

### BROOKLYN EXTENSION.

#### RAPID TRANSIT SUBWAY CONSTRUCTION COMPANY.

For Construction .....	\$2,000,000
For Terminals and Real Estate .....	1,000,000

#### BROOKLYN RAPID TRANSIT COMPANY.

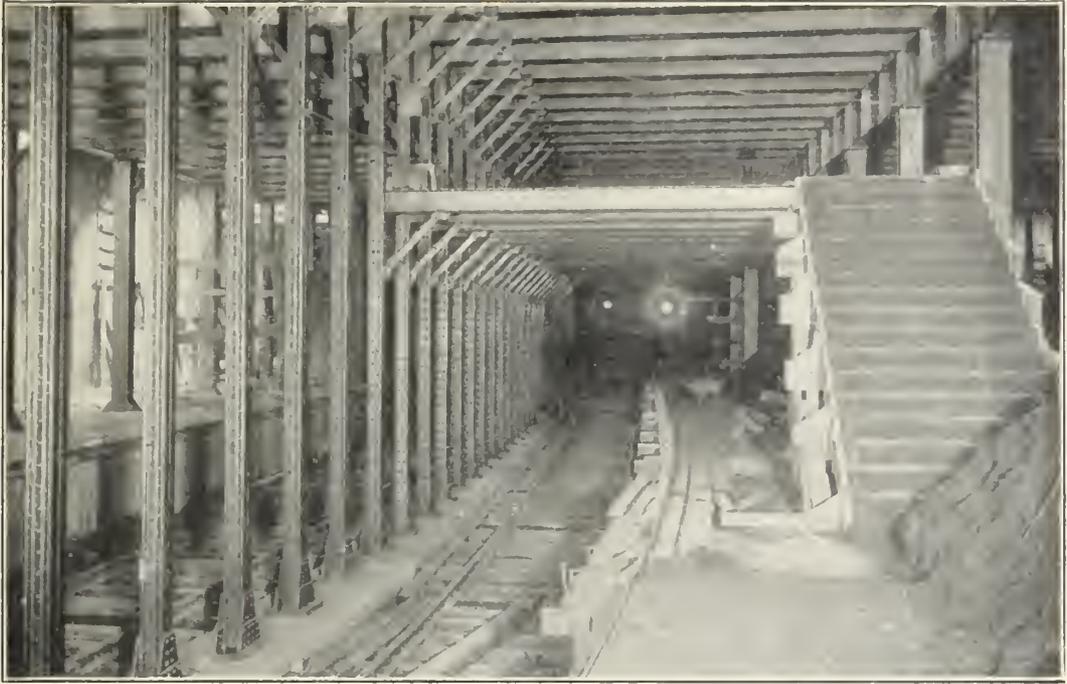
For Construction .....	\$7,000,000
For Terminals and Real Estate .....	1,000,000

Contracts awarded to John B. McDonald and Rapid Transit Subway Construction Company.

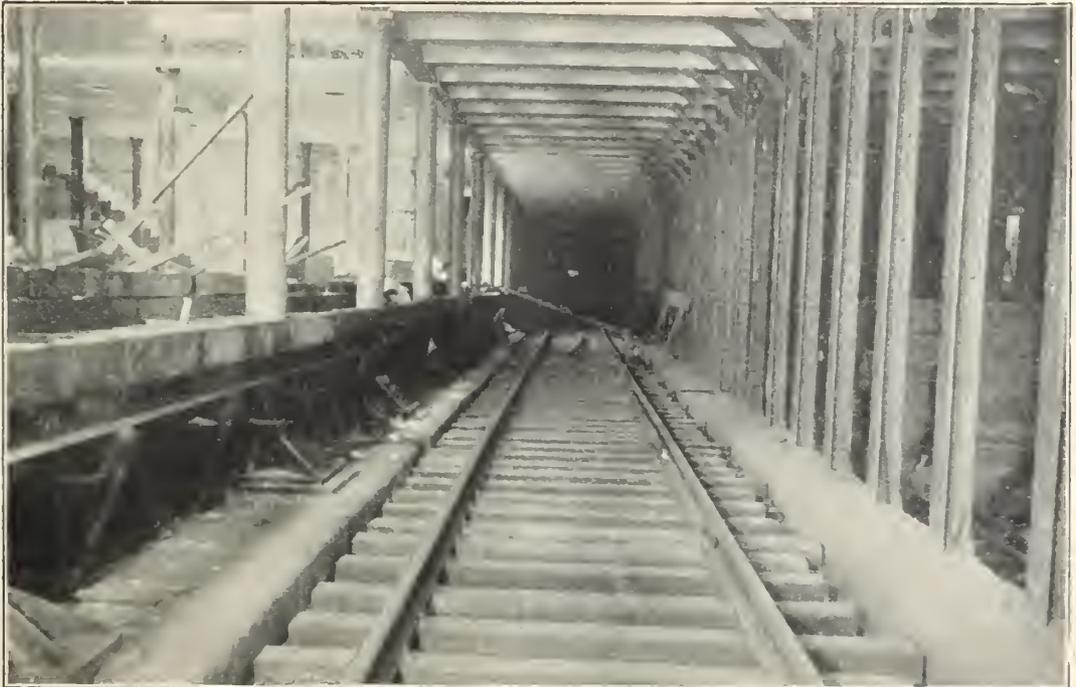
The contract for the construction, equipment and operation of the Manhattan Bronx Subway was awarded to John B. McDonald.

Mr. McDonald transferred the contract for construction to the Rapid Transit Subway Construction Company, and the contract for equipment and operation to the Interborough Rapid Transit Company.

The lease to the operating company runs for a period of fifty years with the privilege of renewal for an additional twenty-five years.



4TH AVENUE SECTION PARTLY COMPLETED



28TH STREET STATION, SHOWING TRACKS PARTLY COMPLETED.



POWER HOUSE—ELEVENTH AVENUE



TUNNEL, BROADWAY AND 156TH STREET



SIDE VIEW HARLEM VIADUCT



MASSIVE GRANITE APPROACH TO VIADUCT FROM THE NORTH - BROADWAY AND 133<sup>d</sup> STREET



VIADUCT WESTCHESTER AVENUE AND FOX STREET



VIADUCT WESTCHESTER AVENUE

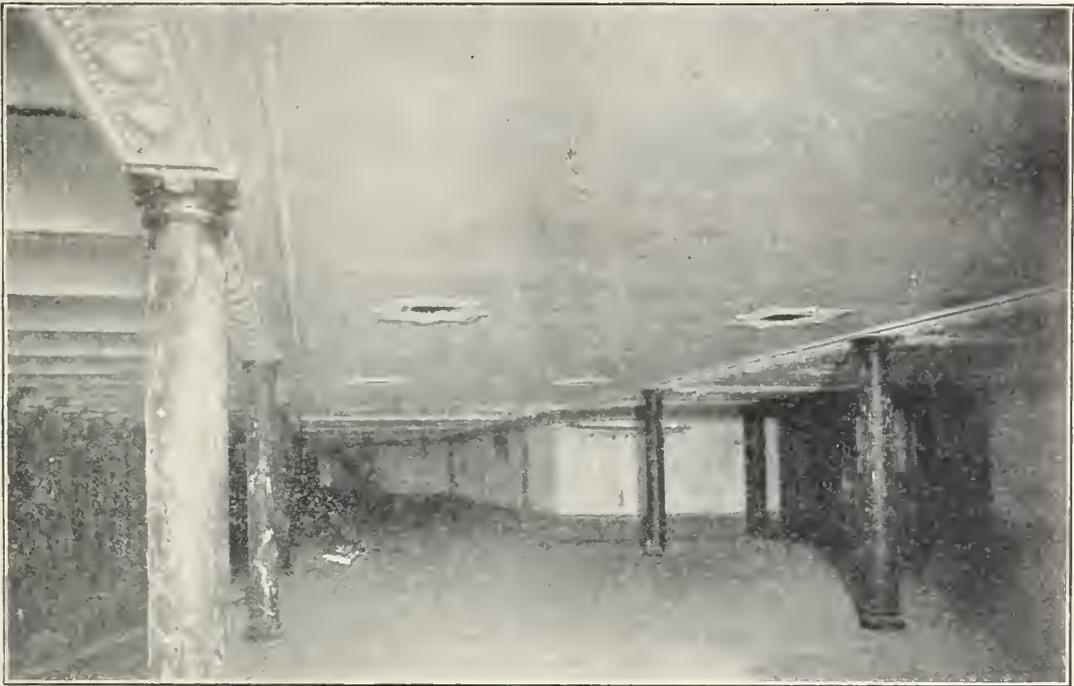
# ENAMELED BRICK

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For the only Model Station of the New York Subway completed as per original specification supplied by us for the 59th St. Circle Station in 2d quality goods

**ENAMELED SUBWAY TILE** (with patent drainage system)  
used in the Stations of the Boston Subway *o o*

---



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## AMERICAN ENAMELED BRICK & TILE CO.

We ship to markets from  
Maine to California, U. S. A., and from  
Canada, N. A., to Buenos Aires, S. A.

1 MADISON AVENUE, N. Y. CITY  
Factory: SOUTH RIVER, NEW JERSEY

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**CAPACITY: 3,000,000 PER ANNUM**

**INTERBOROUGH RAPID TRANSIT CO. STOCK**  
AND  
**LACKAWANNA STEEL CO. STOCK AND BONDS**

DEALT IN  
**MISCELLANEOUS SECURITIES IN ALL MARKETS**

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**HIGH GRADE BONDS**

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---

**J. WILLET HALL**

TELEPHONE, 4309 BROAD

BANKER

25 BROAD ST., NEW YORK

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**TEMPORARY TIME TABLE**

**LOCAL TRAINS**

5 A. M. to 6 A. M. every four minutes.  
6 A. M. to 8,30 P. M., every three minutes.  
8,30 P. M. to midnight, every six minutes.  
Midnight to 5 A. M., every ten minutes.

**EXPRESS TRAIN SCHEDULE**

Express trains will move between the terminals of the west side branches  
as follows:

6 30 A. M. to 7 A. M., every five minutes.  
7 A. M. to 10 A. M., every four minutes.  
10 A. M. to 2 P. M., every ten minutes.  
2 P. M. to 4 P. M., every six minutes.  
4 P. M. to 7 P. M., every four minutes.  
7 P. M. to 10 P. M., every five minutes.  
10 P. M. to 11 P. M. every ten minutes.



1860

THE

1904

**WASHINGTON LIFE INSURANCE CO.**  
**OF NEW YORK**

W. A. BREWER, Jr., Pres't

Assets, - - - \$17,000,000

141 Broadway, New York



59TH STREET STATION

An advertisement for the Densmore typewriter. The top of the ad features the brand name "The Densmore" in a large, stylized, serif font, set against a decorative, textured background. Below this, the text "OFFICIAL TYPEWRITER OF THE" is written in a smaller, bold, sans-serif font. In the center, a Densmore typewriter is shown from a three-quarter view, enclosed within a circular frame that has a braided or rope-like texture. The typewriter has "The Densmore" printed on its carriage and "Densmore" on the front. Below the typewriter, the text "WORLD'S FAIR ST. LOUIS" is written in a large, bold, serif font. At the bottom, in a smaller font, it says "HEAD OFFICE, 309 BROADWAY, NEW YORK". On either side of the central typewriter image are two vertical panels. The left panel shows a woman in classical-style clothing sitting at a desk and typing. The right panel shows a man in similar attire sitting at a desk and typing. The entire advertisement is framed by a decorative border with a repeating pattern.



BROADWAY AND 59TH STREET STATION



VIEW OF CITY HALL STATION



**“Barnes”**

Manufacturer of

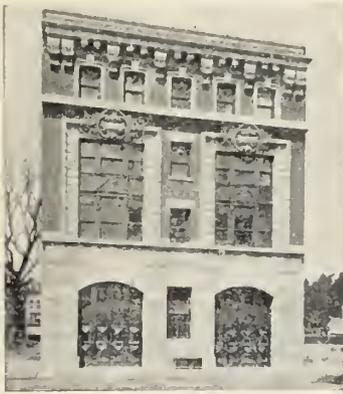
PARTITIONS, COUNTERS,  
RAILINGS, TABLES, &c.  
Also  
LODGE, BANK, SCHOOL and  
SALOON FURNITURE

**Roll Top Desks AND Office Furniture**  
OF ALL KINDS.

**WALTER F. BARNES, 372 BROADWAY, Near FRANKLIN ST.,**

Telephone 1066 Franklin

**NEW YORK**



ESTABLISHED 1848

**WILLIAM L. CROW**

General Contractor

287 FOURTH AVENUE - - NEW YORK

BUILDER OF SUB-STATION POWER HOUSES  
NOS. 8 AND 17



The BALL BEARING  
**Densmore**

responds to the effortless  
touch of the most delicate  
fingers.

Free pamphlet.

Densmore Typewriter Co.  
309 Broadway, New York.

For Advertising in Subsequent Editions

APPLY TO

**BURROUGHS & CO., Publishers**

29 BROADWAY, N. Y.

# HISTORY OF CONEY ISLAND

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## *CONTAINING*

Half-tone Pictures of  
Beautiful Luna Park,  
Dreamland,  
Steeplechase Park,  
and all other Attractions

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PRICE, 10 CENTS

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BURROUGHS & CO., Publishers

29 BROADWAY, NEW YORK CITY



HAVE you Locomotor  
Ataxia?

Have you lost the  
power of locomotion?

Suffer from Shooting Pains?

Yes!

Well! we can overcome all of  
this in our Curative Boot.

Cost you nothing to try.

Why not see us?

HILGERT CURATIVE FOOT-GEAR INSTITUTION

31 WEST 26th STREET, NEW YORK

Telephone 1527  
1528 Madison Square

# THE BON-VEE-VON LUNCHEON BOX

Looks Like a Camera. Is Built for the Comfort of the Inner Man



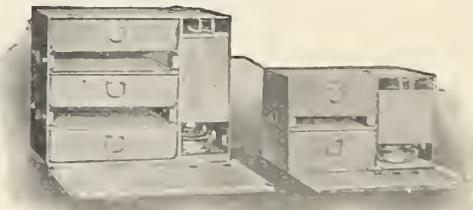
We offer three styles and sizes of the Bon-Vee-Von, to suit the taste of man, woman and child. Price, \$2.00 each.

The large one, size 8 in. wide, 5 in. deep and 7 in. high, is suitable for the sportsman or the man whose absence is extended beyond a single meal. Will hold enough food and liquid for all day.

The smaller size Bon-Vee-Von is particularly adapted for "the noonday meal

away from home." It appeals to teachers, school children, travelers, mechanics, business and railroad men who are seeking comfort in the face of a necessity. **In the MUSIC ROLL EFFECT.** Appeals to women because of its neat, refined appearance and its compact form. We commend it to all who are averse to the crowded and noisy lunch rooms of our large cities.

As the illustration shows, the cover and handle resemble a music roll. The interior consists of a half-pint flask with detachable alcohol lamp, a collapsible cup of aluminum with cover, and a cylindrical box for holding sandwiches. All parts are removable, made of highly polished blocked tin. Cover and handle are made of imitation leather of pebbled morocco finish.



## DESCRIPTION OF CAMERA BOXES.

They have two or three trays (according to size) for food, a flask for liquid and a spirit lamp for heating. Slides confine the heat to any one or all sections. Asbestos shelves above the middle and bottom trays, sliding on metal supports, act as covers for the trays, and also shut off the heat if desired. An inch space be-

tween cover and box allows room for knife, fork, spoon and napkin. All parts are removable. The best material and workmanship enter into the construction of the Bon-Vee-Von. The lamp is of brass, and other parts of non-corrosive blocked tin.

*For further particulars, send for Circular to the*

## Union Lunch Box Co., 13-21 Park Row

EXHIBIT IN VARIOUS INDUSTRIES BUILDINGS, WORLD'S FAIR, ST. LOUIS



# BERGER'S METAL CEILINGS

CLASSIFIED DESIGNS

LARGE STOCK

QUICK SERVICE

210 East Twenty-third Street, New York

Phone, 5656 Gramercy

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## The Bradhurst Boarding Stables

SPECIAL ATTENTION PAID TO ROAD HORSES

H. S. CLARK

458-460 West 146th Street - - - New York

Telephone, 189 Morningside

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## ST. DENIS HOTEL

Broadway and Eleventh Street - - - New York

EUROPEAN PLAN

CONVENIENT LOCATION

WM. TAYLOR & SON

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## Dutcher House and Cottages

Pawling, Dutchess Co., New York

NINETY MINUTES FROM NEW YORK CITY. LARGE ROOMS, FINE TABLE.

GOLF, TENNIS, FINE DRIVES, BOATING AND FISHING

FRANK LORD, Proprietor



TRIMMING

RUBBER TIRES

E. J. MULCAHY  
COACH AND CARRIAGE PAINTING

306 WEST 68th STREET

Near West End Avenue

NEW YORK

Repairing of all kinds promptly attended to

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BOWLING

BILLIARDS

:: :: VISIT THE :: ::

New Criterion Bowling & Billiard Academy

115 and 117 W. 23d STREET

OPEN GAMES AFTERNOONS, EVENINGS AND SUNDAYS

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AFTER SHAVING

ALWAYS USE

Creme Elcaya

AT HOME

AT THE BARBERS

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TELEPHONE CALL, 399 E. N. Y.

LOUIS DANANCHER  
ARCHITECT

256 East New York Avenue      BROOKLYN BOROUGH

Corner Rockaway Avenue



# WILLIAM McDERMOTT

## Metropolitan Dancing Academy

127-129 Columbus Avenue, New York

Waltz, Two-step, Polka, and Schottische Guaranteed in Six Lessons, for Five Dollars. Receptions, Wednesday and Saturday Evenings, and Sunday Afternoon and Evening.

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Telephone, 2295 38th Street

# PERKINS & MAYERS

DIAMONDS, WATCHES  
AND JEWELRY ❁ ❁ ❁

1385 Broadway

 New York

Order Work and Repairs a Specialty. Diamonds and Jewelry of all Kinds Bought or Exchanged

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# GILSEY HOUSE

Broadway and 29th Street

New York City

Most convenient location for families and transient guests. Newly renovated, decorated and fire-proofed.

A. R. KEEN, Proprietor

Relief Decorations  
Hardwood Polishing a Specialty

# H. E. KINGSLEY

## Painter and Decorator

869 Amsterdam Avenue  
Between 102d and 103d Streets

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Telephone, 3072 Franklin

Established 1870

# CHARLES LANGBEIN

WM. LANGBEIN & BROS., Successors

Manufacturers of

## FINE CUTLERY

Grinding and Repairing

38 and 79 Centre Street, - - - New York

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HORSES AND CARRIAGES

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When you use

**TALLY-HO** PLAYING  
CARDS

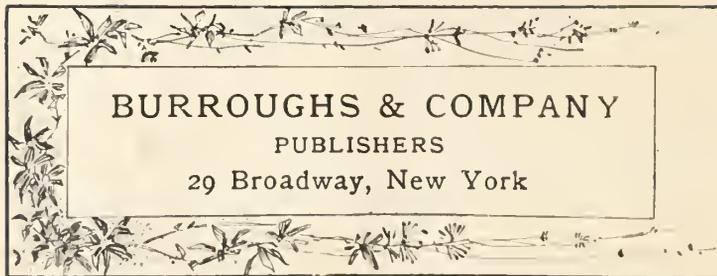
You have the satisfaction of knowing they are right

MADE BY

**ANDREW DOUGHERTY**

76-78-80 CENTRE STREET

NEW YORK



BURROUGHS & COMPANY

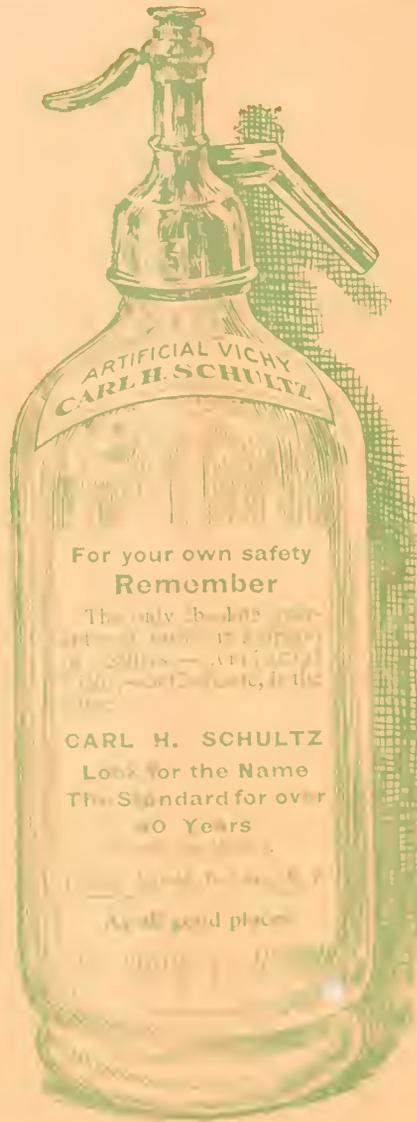
PUBLISHERS

29 Broadway, New York



ESTABLISHED 1862

DELIVERED DIRECT AT YOUR RESIDENCE



ARTIFICIAL VICHY  
SELTERS  
CARBONIC

KISSINGEN  
CLUB SODA  
LITHIA WATER

LITHIA-VICHY  
DOUBLE CARLSBAD  
LITHIA-  
CARLSBAD

QUADRUPLE CARLSBAD  
MARIENBAD

BILIN  
OBERSALZBRUNN  
EMS

ARTIFICIAL SARATOGA  
HOMBURG  
BITTER  
KISSINGEN

PULLNA  
WILDUNGEN  
SCHWALBACH

PYRMONT  
IRON WATER

ALSO GINGER ALE, SARSAPARILLA, AND LEMON SODA

# CARL H. SCHULTZ

430-444 FIRST AVE., N. Y.

TELEPHONE  
3420 MADISON SQUARE









