

AUSTIN CORBIN'S SCHEME OF TUNNELS FOR RAPID TRANSIT. Long Studied Plans of the Metropolitan Underground Railway System Made Public for the First Time.

THROUGH SOLID ROCK UNDER RIVER AND CITY. It Would Make Two Mighty Highways One Hundred Feet Below Ground to Give Us Swift and Clean Transportation.

DRILL AND DYNAMITE WAIT ONLY FOR THE WORD.

Men of Millions Ready to Pay for Section No. 1, to Connect Atlantic Avenar, Brooklyn, and Whitehall Street, New York.

DRAWINGS OF TUNNELS AND STATIONS

As the great problem of rapid transit been solved at last? A number of very prominent gentlemen in this city and elsewhere believe that it has, and the name of their solution is the Metropolitan Underground Railway.

The scheme is a comprehensive one. It covers all the ground (albeit underground) and takes in the needs of the greater New York that all good citizens are waiting to see. It will not merely furnish quick and comfortable transit along the longitudinal lines of Manhattan Island, but will connect

Samuel Thomas, chairman of the Board of Directors of the East Tennessee, Virginia and Georgia Railroad Company. Calvin S. Rice, United States Senator from Ohio. J. P. Knowlton, of William Knowlton & Sons, mercantile firm, vice president of the Pullman Palace Car Company. W. B. Kendall, treasurer of the Bigelow Carpet Company.

The organization covered by the papers filed at Albany is strictly for the construction of the tunnel between New York and Brooklyn. No organization has been made of a company to construct the lines through the city, and none will be until after the Rapid Transit Commissioners shall have decided whether the plan is one that will meet with their approval.

But the engineers have completed their tests and estimates for the entire work proposed, and they declare that a tunnel wide enough for two tracks can be built in the very best manner and delivered ready for use for not to exceed \$1,250,000 per mile. This does not cover, however, the cost of anything but the tunnel itself. The cost of excavations for underground stations, switches, real estate for surface stations, plants for ventilation and lighting and equipment, will have to be added to this cost.

Section No. 1.—A submarine double track tunnel from Whitehall street, New York, to Atlantic avenue, Brooklyn, to connect with all the "L" roads both east and west side in this city and with the Long Island Railroad and extensions of the "L" roads in Brooklyn.

Section No. 2.—A continuation of this first section across and beneath Battery park to a station in Jersey City.

Section No. 3.—A double track tunnel from the foot of Whitehall street, under Broadway, to the Post Office, with intermediate stations at or near Wall street and Bowling Green.

Section No. 4.—A continuation of this line from the Post Office under Broadway to Union square, where it diverges to the left, continuing under Broadway to and under the Boulevard to 10th street. Also branching east from Union square northwesterly to the line of Third street at 14th street, and continuing north under Third street to 14th street, thence northwesterly in a line parallel to the line of the Hudson River until it reaches the line of 15th street, so forming a complete circuit.

Section No. 5.—A loop extending from the terminal station at the foot of Whitehall street northwesterly under Front and Water streets to the line of Essex street, continuing northwesterly beneath Essex street and avenue A to Tenth street, thence northwesterly to a connection with the third avenue line at Twenty-third street. Commencing again at Whitehall street station northwesterly under West street on a line with the piers and general warehouses to Twelfth street, and thence northwesterly beneath Tenth street to a junction with the Broadway line at Seventy-second street.

Section No. 6.—A line to meet the wants developed by the growth of the city north to the annexed districts. This will be a continuation of the Boulevard line north from 15th street on the Kingsbridge road to Kings Bridge, and on from Kings Bridge, through Third avenue, having connection with the west line at Kings Bridge, forming a circuit around the present Jerome Park.

FEATURES OF THE TUNNEL. The level of the first section has been fixed, and

street level. The platforms extend along the centre of the underground stations, with single track on either side, and these converge again together beyond the platforms. Down the centre of the platforms will be the large elevator shafts, which are to have distinct arrival and departure sides, so that no confusion can arise between passengers arriving and leaving the stations.

In the centre of each station platform the elevator shafts will be divided into seven compartments—six for elevator cars, the seventh for an emergency staircase of stone, capable of conveying at each station 240 passengers per minute. They will have double sliding doors, one opening on the departure and the other on the arrival platform. Three of the elevators in the New York station

Four minutes from station to station, including the descent and ascent of the two elevators. How fast that for a foggy day, 70 cents in Brooklyn and beyond?

The permanent way will consist of steel rails, masonry piers to the yard, with the least cost. The rock foundation will insure an ideal road bed for safety, speed and comfort.

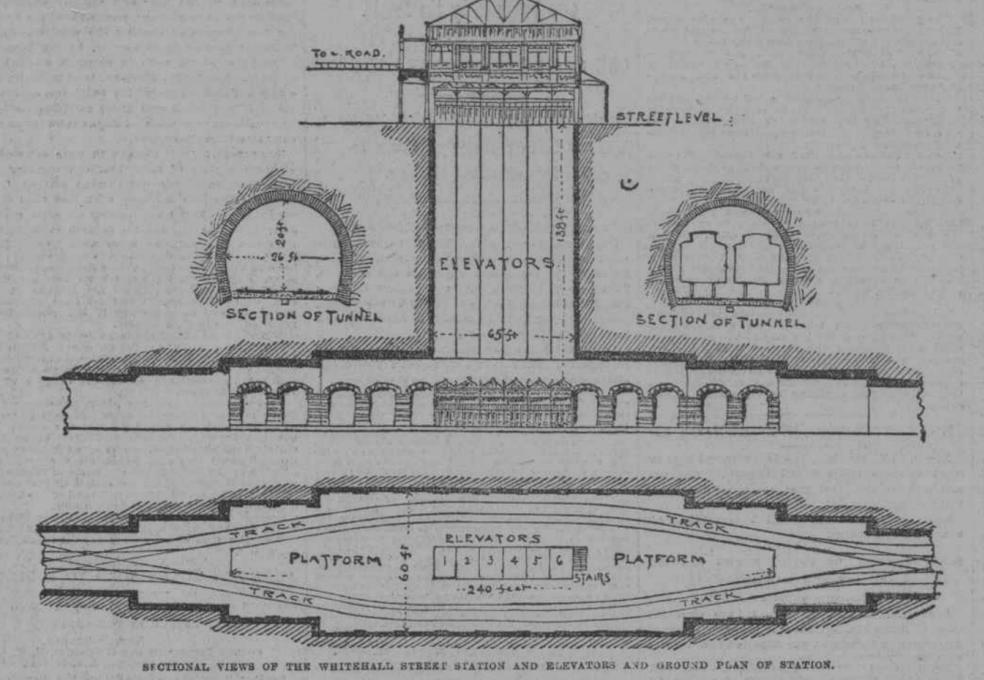
The proposed fare on section No. 1 is the same charged on the Big Bridge, three cents, with possibly a compounding of tickets on the various connecting rapid transit lines.

The foot of Atlantic avenue is a very prominent point in the city of Brooklyn, and a tunnel enabling people to move quickly thence to the southern

amount of the pressure at present existing, besides doing as much, perhaps, to further develop the south side of Brooklyn and Long Island as the Bridge itself.

Some idea of the growth of travel will be obtained from the following table of earnings on the Bridge—

Table with columns: Year, Carried, Receipts, Expenses, Net. Data for years 1882-1890.



terminal of the elevated railroads in New York is certain to secure a very large traffic. When the whole enterprise is completed it will furnish the needed facilities for convenient as well as rapid movement of passengers, not only between Brooklyn and towns in New Jersey and New York city, but between all points in New York city and outlying districts on the north. Moreover, it is certain that at an early date an elevated railroad will be constructed, from a connection with the Long Island Railroad, through Atlantic avenue to the river, and passengers to and from New York to Long Island and its summer resorts will, by using

CHANCE FOR BIG PROFITS. By the various ferry lines running out of New York there were carried in 1890 about 173,228,000 passengers, at an expenditure of over \$5,000,000. This makes something like \$6,000,000 spent in crossing our rivers, and the sum would be appreciably increased every new collection of the figures. Call it \$8,000,000 in 1895, and add \$30,000,000 spent for travel on Manhattan Island, and you can see whether or not there is any profit to be got out of a system that can be built and equipped for a little over \$2,000,000 a mile, and which, while not disturbing the rights of surface or "L" roads, will

our station with Brooklyn and Jersey City and furnish a through route for the Pullman car, passenger and the loaded freight trains from the West and South to New England or to Montauk Point. It will encroach on the domain of no man, save for its yards and stations, and built as it will be, through the solid granite and granite which underlie our cities, it will be safe itself.

Mr. Austin Corbin is the father of this scheme, and the portion of the system upon which all its ready to begin work is section No. 1, connecting the junction of Atlantic avenue and Furman street, Brooklyn, with the foot of Whitehall street, New York.

SHREWD HEADS. Shrewd heads have been at work getting this vast scheme in shape. All the preliminary work has been done without a fact leaking out, and that work has been of the most thorough and comprehensive as well as practical kind. For many months engineers have been making borings all along the lines of the proposed railways, not only in the three cities, but under the waters of the North and East Rivers, in order to determine exactly what kind of engineering feat it would be to build the proposed forty-three miles of tunnel. Beneath the Fifth Avenue Hotel the boring extended to a depth of 2,110 feet.

The results were most satisfactory. Only two crevasses that might give possible trouble were found in the solid rock—at Canal street, in this city, and one in the North River. Such eminent authorities as General John Newton and Charles McCabe have endorsed the scheme and declared it to be entirely feasible.

Over \$30,000 has been expended in preliminary engineering work.

MR. CORBIN OPENS HIS EYE. The first inkling of the scheme was obtained on Saturday, when Mr. Corbin sent illuminated plans and drawings to the members of the Rapid Transit Commission. To Chairman Steiway he wrote as follows:—

JANUARY 17, 1891. WILLIAM STEIWAY, Chairman, and the Board of Rapid Transit, Commissioners of the City of New York. GENTLEMEN—I hand you herewith a pamphlet, with maps, which had been prepared before the appointment of your commission, in which I proposed to construct the line under the General Railroad law of the State, taking the benefit also of the provisions of the act of the Legislature, passed at the last session (but which takes effect on the 1st day of May next), with such further municipal legislation as may be found necessary.

The construction of the first section is already practically provided for, and the whole route as laid out is believed to be the best plan for rapid transit that can be devised. If your commission will adopt it I think I can assure you that the funds will be forthcoming for its construction as rapidly as the various sections can be built, and that the whole work will be completed as quickly as any road could be, as comprehensive as one ought to be and as this one is.

Very respectfully yours, AUSTIN CORBIN. To the members of the commission he wrote similar letters. I have been enabled to get possession of these plans and present them herewith for the delectation of the readers of the Herald.

be 6,000 feet in length, but only 5,000 feet between stations, the balance being devoted to riding accommodations. It will be cut through the solid rock and encased in a brick lining set in cement, and the grades will conform as far as possible to the general contour of the face of the rock, forming the bed of the river. It will be laid out in two grades, the lowest point being 3,600 feet from the New York side of the river, and from there to the Brooklyn station a heading will be driven, which will be connected by a vertical shaft to the main tunnel, the balance being devoted to riding accommodations. A double track of rails will be laid down the tunnel, extending far enough beyond the stations to form a crossover at each end, and thus allow of a continuous and uninterrupted circuit of trains

at the corner of Atlantic avenue and Furman street. The general arrangement will be similar to that of the New York station, with the exception that there is to be no high level platform. The elevators will be made of ornamental wrought iron, and each capable of carrying fifty passengers. They will be worked by hydraulic power at a speed of 100 feet in fifteen seconds. The train and elevator service will have a capacity of 24,000 passengers per hour.

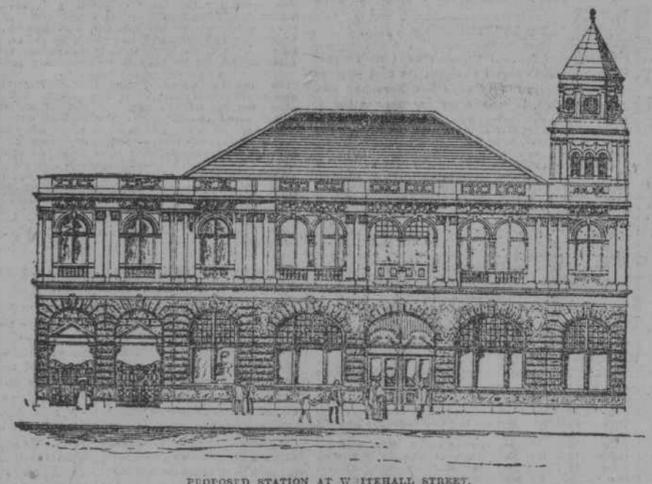
THE MOTOR POWER. Electricity will furnish the motive power and the light, thus avoiding the horrible smoke of the underground railway system of London. As for ventilation, the engineers promise that it will be made perfect. It is provided for by wrought iron circular shafts suspended from the crown of

the tunnel and this route, save at least thirty minutes in time over existing routes. The second section of this gigantic enterprise is one that also lies very close to the heart of Mr. Corbin, for it is limited with his long cherished plan of rapid transit to England, via Long Island and Montauk Haven.

It is virtually a continuation of the East River Tunnel under Battery Park and the North River to Jersey City, connecting with the great trunk lines of railroad, and giving suburbs as well as through travel a speedy means of reaching the heart of the

make the sharpest kind of bid for the bulk of the travel. HOOP LA FOR EUROPE. Mr. Corbin is rather coy about talking about his transatlantic "ride" to the ocean, but he admitted to me that Section No. 1 would be a very strong link in the chain of his proposed new steamship line from Montauk Point to Milford Haven.

If he can get a tunnel from Jersey City to Atlantic avenue he will be a long way on his journey toward the consummation of his pet project. "Milford Haven," he said yesterday, "is one of



to travel to and from station to station. This section of the tunnel will be large enough to admit the largest size Pullman palace cars. PASSENGER TERMINALS. The underground stations, according to the plans, are to be both alike—300 feet long, 60 feet wide and 30 feet high from the rail level to the crown of the arch. They are to be connected with the stations on the street level immediately above them by shafts 80 feet long and 17 feet wide, containing six elevators and a staircase.

metropolis. Mr. Corbin is not prepared to go into details concerning this part of the project, but it does not need a very powerful imagination to see what he has in contemplation, especially when the engineers let drop the significant fact that the arch of the tunnel will be of sufficiently generous dimensions to accommodate cars of the largest size.

Regarding the feasibility of the proposed system the following letters speak for themselves:—

AUSTIN CORBIN, Esq., No. 102 Broadway, New York. MY DEAR SIR—I have examined the plans and sections prepared by your engineer, Mr. Charles M. Jacobs, for the construction of a tunnel under the East River, with connections at Battery Point, New York, and Atlantic avenue, Brooklyn, and in my opinion there are no difficulties in the way of the construction of such a tunnel as proposed, and the plans for its construction and operation are thoroughly practical.

Yours truly, CHARLES M. JACOBS, U. S. No. 85 Broadway, New York. AUSTIN CORBIN, Esq., No. 102 Broadway, New York. SIR—I beg to report the result of my investigation of the various borings taken in the city of New York for the purpose of ascertaining at what point rock is found below the street level on the proposed route of the underground railway, between Whitehall street, New York, terminating at 15th street.

At the south end of Whitehall street rock is found 43 feet below the street level; at the equitable insurance Company's building, 70 feet; at the Mutual Insurance Company's building, 80 feet; at the corner of Broadway and Whitehall street, 100 feet; at the corner of Broadway and Whitehall street, 120 feet; at the corner of Broadway and Whitehall street, 140 feet; at the corner of Broadway and Whitehall street, 160 feet; at the corner of Broadway and Whitehall street, 180 feet; at the corner of Broadway and Whitehall street, 200 feet; at the corner of Broadway and Whitehall street, 220 feet; at the corner of Broadway and Whitehall street, 240 feet; at the corner of Broadway and Whitehall street, 260 feet; at the corner of Broadway and Whitehall street, 280 feet; at the corner of Broadway and Whitehall street, 300 feet.

DEEP WATER AT THE CANAL PORT. President Warner Miller, of the Nicaragua Canal Construction Company, yesterday received a letter from Chief Engineer A. C. Menouel, dated San Juan del Norte, Nicaragua, December 23, 1890, saying that the three-masted schooner Robert Huff, drawing ten and a half feet of water, had been towed into the harbor.

She is the first deep draught vessel that has succeeded in entering the port in twenty-five years, and there is great rejoicing that the dredging at the bar has proven so successful. Captain Thomas H. Morton conducted the operation. He also commanded the large vessel that was lost in the harbor a quarter of a century ago.

CONCERT HALL GIRLS IN CELLS. Police Captain Farrier, of the First precinct, Jersey City, in command of a squad of policemen, last night raided the concert hall of A. A. Newman, at Newark avenue and Cooper place, and of Charles Meistner, of No. 273 Washington street.

Both proprietors and the performers in both places were arrested. The performers were—



at any time experienced the discomforts of remaining for hours outside the bar, or the still greater discomfort of remaining for several days at Sandy Hook, delayed by fog, will appreciate the fact that although fogs do exist off Montauk Point they are less frequent there, and, as there is no land after leaving that point for 3,000 miles, steamships can start off in the teeth of the worst fog that ever existed.

It will be seen, therefore, that when this tunnel is completed, if Mr. Corbin's steamship line of Montauk Point to Milford Haven is also in existence, passengers will be enabled to get into their car at Chicago and disembark without change of car at Montauk Point. The freight can be put aboard ship in the same manner with only one handling. The actual distance saved on board ship by this route would be about four hundred miles.

It will not take more than three hours by fast train from Whitehall to Montauk Point, if as long, and the steamer to cover the distance would take at least three times as long. Besides, there is an enormous saving in actual distance between Montauk Point and Milford Haven as compared with the distance between New York and Liverpool via

Queensbury, irrespective of the chances of fog or the detention at the bar. Four hundred miles saved mean nearly twenty-four hours, and by the time the line is in operation there is no reason to suppose that Atlantic liners will not make the crossing inside of five days and a half. Mr. Corbin's enterprise, if it goes through, will have the benefit of the latest invention. He will have an old route, and he says he cannot see why he should not land passengers in New York inside of four days and a half from England.

ARTICLES FILED AT ALBANY. ALBANY, N. Y., Jan. 19, 1891.—Articles of association of the Metropolitan Underground Railway Company, having a capital of \$3,000,000, divided into 150,000 shares, were filed with the Secretary of State to-day.

The company is formed under the general Railroad act of 1890 for constructing and operating a railroad about one and one-half miles in length, commencing at some convenient point at or near the shore of the East River, or New York harbor, in New York city, and running thence by the most direct and feasible route underground and by tunnel under the bed of the waters of the East River or New York harbor, and terminating at some convenient point in Brooklyn.

The directors of the company for the first year are Austin Corbin, Esq., Norman, Frederick T. Brown, John Sloan, Horace Porter, Daniel C. Corbin, J. Edward Simmons and Edward Lauterbach, New York city; Benjamin F. Tracy, Edwin F. Knowlton, C. C. Huntington and Edward F. Winslow, New York city; Calvin S. Rice, Timothy J. Woodruff and A. E. Orr, Brooklyn, who each subscribe to 100 shares.

THE subscribers to the capital stock include all the directors and John Newton, Abram S. Hewitt, F. P. O'Leary, Levi P. Morton, C. S. Smith, Samuel Thomas, C. C. Huntington and Edward F. Winslow, New York city; Calvin S. Rice, Timothy J. Woodruff and A. E. Orr, Brooklyn, who each subscribe to 100 shares.

HEINRICH SCHMIDT DROPPED IN TO see his old friend Edward Konig, living at No. 143 Allen street, last night. He found Konig, emaciated and almost beyond recognition, engaged in hacking frantically away at his throat with a jack knife. Schmidt with difficulty disarmed him, and calling in the police had him arrested and lodged in the Eldridge street station house.

Konig was very despondent over his failure to take his life and reproached Schmidt bitterly for his interference.

"I have been lonely and alone," he said, "for over ten years. I have worked day and night to make a home for the woman I loved. Suddenly, some three years ago, I found that my health was gone, that I had rapid consumption, and must soon die."

"I went away from the sight of the woman I loved, saying not a word, and went into my corner to die. But the doctor was wrong. I grew worse, and more miserable in body and soul, but death did not come. Then one day I heard of Professor Konig's great discovery, and I ran as fast as I could to my doctor."

"Is there any hope for me, too?" I inquired anxiously.

"The doctor placed his instrument upon my chest and then said, 'It's no use, my man. There are huge cavities in your lungs. The only wonder is that you are alive at all.'"

"So I crept back determined to die. 'For three days I starved myself; then the gnawing pains were too much for me, and I said, 'Why should I suffer more? God knows I have suffered enough already.' Then Schmidt came. The knife

was at my throat. Ach Schmidt, you came too soon!"

An ambulance surgeon dressed the slight wounds which the starving man had inflicted, and then the great said kindly—

"I will have to hold you for the Essex Police Court in the morning."

Schmidt, the friend, left the station in tears. Everybody speaks well of Konig in Allen street.

"He was a poor chap with no friends, and such a cough! We could hear him moaning all night long. I don't wonder he wanted die, poor thing," said his landlady.

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Emily Corbett, No. 79 East Fourth street, New York; Corbin Corbin, No. 45 East Second street, Hoboken; Mattie Townsend, No. 23 Leroy street, New York; James and Antonette Taylor, Brooklyn; Mattie and Charles Wilson, No. 24 East 12th street, New York; Mamie Rice, No. 415 Sixth street, New York; and Annie Brown, No. 419 Chatham street, New York.

The ordinance was all charged with violation of the ordinance regarding concerts. Proprietors Newman and Meistner had failed to renew their licenses, which expired a month ago.

POISON IN THE PUMP. Emma Wilson, nine years old, the daughter of Charles Wilson, a bartender, who lives on the top floor of the five story building No. 31 St. Mark's place, died yesterday, after a short illness, it is supposed from poisoning. The child had been in the habit of drinking from the brass tap of a pump in the yard, and it is said the water was poisoned by the metal. Coroner Levy has notified the Health Board, and an autopsy will be held to-day.