RAPID TRANSIT.

The Work Before the Commissioners.

MORE DETAILS OF PLANS

Illustrations of American Engineering Ingenuity.

In addition to the many plans for rapid transit already pictured and described in the HERALD we give to-day a number, some of which have been heretofore alluded to and partially explained. Each has its special excellences and is believed by its promoters to be the very best that engineering science can present for solving the knotty problem in which our whole community is so deeply interested.

Under the rule adopted by the Commissioners no more plans will be received or considered by them. They will now, with the assistance of their consulting engineers, go thoroughly over the great mass of suggestions, practical and impracticable, embodied in the many plans and models which have been presented, sifting the useful from the worthless. Having thus before them, in addition to their own previous convictions on the subject, the ideas of an army of inventors and students of the city's needs, they will enter upon a thorough study of the route or routes most advantageous for this system of railway lines which they are empowered to authorize. By the law they are required as early as the 8th of September to decide upon the question of routes, and after that is fixed upon they will decide upon the plans of construction and the company or companies to which the franchises shall be assigned. No one doubts the thorough earnestness with which the Commissioners have undertaken to give our people the very best means for making the closest possible connections between our chief centres of commerce and industry and the uptown or suburban residences of our people, as well as with all the great trunk railways which, like the veins and arteries, centre in New York, as the heart of our country. To their wise decision of the important questions bound up in this complex problem of rapid transit New York looks with eager expectancy. From the data before the Commission it is evident that abundant capital waits to carry into practical effect the plans they may approve, and to give the city at the earliest possible period the full benefit of well-built and amply appointed railroads to replace the slow and clumsy methods of transportation which have only retarded the growth and prosperity of the city. There will be a session of the Commission to-day, and every day through the week, in which these matters will be thoroughly canvassed, and an early decision upon them is hoped for.

HULBERT, AUBIN AND WOODWARD'S PLAN.

This plan is an arched elevated road, consisting of a series of arches spanning the roadway from curb to curb, at a distance apart of not over fifty feet. Where streets intersect, the crossings will be spanned diagonally, and the structure will thus acquire immense longitudinal strength, as if, indeed, an abutment were built on every block. Over a street of sixty feet, as Third avenue, the arch will be semi-circular, and will therefore rise to a centre height of thirty feet. Sixteen feet above the present roadway the main tie of the arch or girder will be thrown across and firmly held in position by truss rods and suspenders from the arch itself. Between each arch will be hung an intermediate girder, which will also be kept in place by vertical and diagonal suspenders and braces. Upon this series of ties or girders will rest the tracks, four in number, occupying an extreme breadth of less than thirty feet, or about half the width of the street below. The two inner tracks will be used for quick transit, and the outside ones for the slower requirements of way travel; while at the termini and at such points on the line as may be found expedient the usual switches for transfer of cars from track to track will be placed. Level with the rails will be the stations, landings, platforms and necessary gangways from track to track.

The whole will be of wrought iron, excepting the ornamental work, which will be of cast iron. The arches will be of rolled iron, the segments all rolled and punched alike, and the double plates together forming a T set up with "joints broken." The ties and girders will be of the different required forms of rolled iron of the very best makes. The material employed in each and every piece will be thoroughly tested and proved and will be an exact duplicate of every other similar piece, thus insuring harmony in construction. The cost of construction will be about $360,000 per mile (double track).

The rails will be of steel, especially smooth rolled on their face, with continuous joints, and held down to their place on the sleepers by bolts. Between rails and sleepers, at proper intervals, will lie leaves or cushions of rubber. The whole line, say from the Battery to Harlem, having been divided into as many sections as may be deemed expedient for efficient and rapid work, the blocks of granite, or cylinders filled with concrete, which are to form the foundations of the arches, will be sunk in their places along the curbstones. At the beginning of each section will be placed in position a huge carriage, mounted on rollers, and so spanning the street as in no way to interrupt travel. This carriage will be in length equal to the ground covered by two arches, and by its aid the structure can be built as far up to and including the girders and track platform. From this platform the succession of permanent arches will be raised independently, and the whole structure finished. All material to be used during the day will be delivered at night and elevated by power to the platforms. As bolts and nuts are to be employed to the almost entire exclusion of rivets, the objectionable noise of riveting will be avoided, and consequent increased rapidity of construction insured.

Thus the whole structure can be erected without the necessity of large excavations, the interference with sewers, gas and water mains, or their connections, the use of derricks, or the encumbering of the sidewalks or roadway with material.

When finished, the gaslights, telegraphs, signs and awnings can all be affixed to the arches, and the present posts which severally support them entirely dispensed with. The obstruction of light to the wayside houses will be slight. In fact, it has been calculated that the total diminution of light from the whole structure will be about equal to that absorbed by a brown stone front, or to that caused by dark paint applied to an opposite house or block.

J. B. & J. M. CORNELL'S PLAN.

The Messrs. J. B. & J. M. Cornell, in presenting the Commissioners of Rapid Transit with their model and plans of an elevated railway, accompanied them with a description of the route and a proposition to build and operate the road in accordance with the act of the Legislature and such regulations as the Commission might impose.

THE ROUTE.

They commence at the South ferry and run up through Broad and Nassau or William street to the foot of Centre, through Centre and Marion to Prince, then run easterly through private property to Mulberry, up Mulberry to Bleecker, continuing directly on through private property to Lafayette place, up through Lafayette place into Fourth avenue at Eighth street, turn easterly out of Fourth avenue between Twelfth and Thirteenth streets, and run through private property to Fourteenth street, at foot of Lexington avenue and up Lexington avenue to Harlem River.

From the City Hall to the Forty-second street depot they propose three tracks, the central track to be exclusively for express trains between those points, this express track to turn up in Forty-second street and run directly up to the front of the depot. All the remaining part of the road to be double track.

They propose to have the road completed and in operation from the City Hall to the Forty-second street depot in eighteen months from the time the right of way is secured to the company. Down to the South ferry in eight months more, and to Harlem River in thirty months from the time the right of way is secured to the company.

Their plan is on the elevated system, and provides for wrought iron columns on each sidewalk, near the curbs, placed from forty to sixty feet apart along the street, with wrought iron girders extending across the street from column to column. Framed into these cross girders are similar wrought iron girders running along the streets and serving as track stringers, directly upon which are secured steel rails.

Interposed between the rails and the track stringers at short intervals are pieces of thin sheet rubber, for the purpose of preventing the jar and the noise which would otherwise be experienced. Rubber is also introduced between the ends of track stringers and thin supports at the cross girders and under the ends of the cross girders on the tops of the columns.

The columns are inserted in cast iron sockets situated below the pavement. These have a broad base, which is supported by solid masonry. The track stringers are braced to each other by a continuous system of diagonal bracing, which gives great firmness to the entire structure. The model is between ten and eleven feet long by four feet wide, and is on a scale of one-eighth of full size, exhibiting quite clearly the mode of construction and the appearance the road would present when built.

SPEER'S ENDLESS RAILWAY.

This proposition to give the people rapid transit is a novel one indeed, and so different from all other plans presented that a description is given below. The inventor has a track of about seventy-five feet in length working on a floor at No. 82 Warren street. Mr. Speer thus describes the plan:—

The nature of this plan may be described as consisting in an endless, perpetually and rapidly moving train or series of light platform cars, eight feet wide and thirty feet long, the flooring to be with semi-circular ends, one fitting in the other similar to a rule joint, by which they are closely coupled together, thus preventing any open joints between the cars when turning curves.

The underneath framework of the two ends that come together are made to lap so that they both rest on one truck, thus facilitating the turning of curves and requiring but one truck to each car section of thirty feet.

The train when complete will be endless and is to cover the track on the whole route, up one side of the street, around a curve, and down the other side, or up one street and down another street, forming an endless belt of cars.

Suitable drawing rooms (or enclosures), six feet wide, are to be erected on the outer part of the train, which will leave a space of two feet on the inner part of the train not enclosed, for the use and free passage of the transfer car. The drawing rooms, or enclosed cars, will be in groups of eight or nine cars together, and these groups will be one-eighth of a mile apart, or the distance of three blocks; the centre car of each group to be with open sides and designated as the train station. One of these drawing rooms may be exclusively for ladies and one as a smoking car for gentlemen. All to contain warming apparatus in winter time. A space of two feet on the inner edge of the train (toward the building) will be open and unobstructed. The flooring of this two feet to be covered with thin plate or boiler iron, upon which the two wheels or friction shoe of the transfer car will run.

The distance between one set or group of enclosed cars to the next being one-eighth of a mile, the intermediate space is to be occupied with light platform cars. These platforms may contain as many seats as desired for those who choose to occupy this part of the train.

This endless train is to be moved by stationary engines, placed under ground, one mile apart, the power to be transmitted to the train by means of two pairs of horizontal driving wheels attached to perpendicular shafts that come up from the engine below. By means of powerful springs these driving wheels are pressed against an iron flange, called the keel, that is fastened to the under side of the train and projects below it; each pair of driving wheels being pressed together from opposite directions against this keel, with springs powerful enough to get as much tractive force as the weight of a locomotive imparts to its driving wheels on an ordinary railroad track when moving a heavy freight train. One is done by the force of springs, the other is done by the force of gravity, the effect being the same in one case as the other. Each set of driving wheels, therefore, with one engine, does its share of the work, by moving its mile of the train. Each of these engines to be of one-third more power than is required to run the train at the most crowded hour of a stormy day, so that should one engine, or even one-third of the engines, get out of order, there will be reserve power in the others, which, when brought into use, will be sufficient to do all the work.

This train is to be run continually without stopping from daylight in the morning until one o'clock at night. During the time it is not running, from one o'clock until daylight, the necessary repairs and oiling will be done. Telegraph wires are to connect all the engines with the fixed stations and with each other, so as to have a uniformity of motion, also a separate telegraphic line of batteries on the train circuit, connecting with all the train stations, and with a series of car brakes, so that in case of accident at any part of the line the engines can be immediately stopped and the brakes put on all parts of the train at the same time.

The train being constantly in motion, it will be a through express train, without stop, and at the same time a local accommodation train, taking on and letting off passengers all along the route, both combined on one train and one track. This taking on and off of passengers is done by means of transfer seats, or may be more properly called transfer cars. Immediately adjoining the movable train, and about a foot from it, will be a single stationary track, on a level with the flooring of the train, for the use of two wheels of these transfer cars; the other two wheels rest upon the flooring of the train. The axle of each wheel is independent of the other, or, in other words, the axles are cut in two in the centre, so that the motion of the wheels on one side of the transfer car are independent of the motion of the wheels on the other side.

The facilities to be provided for passengers to get on and off the train without stopping it are simply by means of these transfer seats, or cars that can be made to start or stop at the will of the conductors who have them in charge. This is done by friction brakes, which may be applied to the wheels resting on the permanent track to bring it to a stop, or to the wheels on the train to bring it in motion. When the transfer car has acquired the same motion as the train it is as much a part of the train as a settee on a deck is a part of a steamboat. Passengers then step out of the transfer car on the train station and take their place in one of the drawing rooms or other places on the train. At the same time others who may wish to get off the train, having assembled at the train station, get in the transfer car, and the conductor, by reversing the brakes, causes the train to drop the transfer car behind, which gradually slackens it speed until it comes to a stop at the next fixed station, where it again exchanges passengers, and by another reverse movement of the brake handle it starts off very slowly at first, gradually accelerating in speed, until in a few seconds it has acquired the speed of the train and is a fixture to it as before.

These transfer cars will be but four feet wide and twelve feet long, with six seats capable of holding two persons each. Each transfer car to be in charge of a conductor, whose only duty is to attend to the brakes and see to the transfer of passengers to and from the train. There will be sixteen transfer cars to a mile, so that there will be one starting from each station every few seconds. While some are dropping from the train stations others are starting from the fixed stations.

By this means passengers may get off and on all along the route with perfect ease and safety, without stopping the train or causing loss of time to others who want to go a longer distance. A passenger once on the train goes through to his destination without stoppage, and thus much time is gained by the travelling public, besides which the local and through travel is all on one track and one train, thus saving the cost and space of another track in the street.

In addition to the enclosed drawing rooms on the train, the open platforms may be provided with seats for persons who choose to occupy them in pleasant weather. This part of the train may also be covered with awnings if desired.

A collector of fares is to be at each fixed station and collect from passengers before they go upon the station platform. In addition to the transfer car conductor there are also to be train conductors, one at each station, to direct and attend to passengers when once on the train. There must also be one inspector of the road to every mile, also eight laborers (on an average) to each mile to replace cars on track or do any repairs during the time the train is still at work.

THE MANSFIELD-MOORE PLAN.

In bringing the Mansfield & Moore Elevated Railway, on the cable plan, to the notice of the public, and especially to the consideration of all those who feel interested in having a railway constructed that will meet all the requirements as to safety, noiselessness and durability, besides being, from the nature of its construction, neither unsightly nor interfering with the property holders or dwellers on the route whereon the railway may be so placed, it may be confidently asserted, says the attorney, that this railway will meet all the requirements that should constitute a railway worthy of public notice and patronage. This plan for a rapid transit railway was before the New York Legislature in 1868; referred to the committee of the Senate appointed to select a plan or plans for rapid transit; approved of by said committee, and favorably noticed at the time by the leading newspapers of New York and Brooklyn. Since then the plan for said road has been perfected by L. E. Mansfield, mechanical engineer.

The following synopsis of what this road is intended to be will fully prove that this road, to consist of four tracks of four and a half inch cables, is specially adapted to grant the much-desired relief to our now overcrowded streets and avenues, bringing remote places in close proximity as regards time, obviating long, tedious and disagreeable rides in crowded, slow-going horse cars; offering an agreeable change from rough jolting and frequent detention, from balky, overworked horses, snow drifts and mud, to an easy riding, perfectly safe mode of conveyance, not subject to delays on account of weather, and never to be encumbered with snow or ice, as this road offers no chance to find a resting place thereon. This road being elevated on wrought iron pillars, sixteen feet above the roadway, will be out of the reach of interruption or detention. The cars on the road, constructed with side doors, will be reached safely by stairways, which, starting from the cross streets, will not encumber the streets or avenues whereon this road will be located, and the airy and light construction thereof will not, and cannot, interfere with business or impede the movement of the public on the sidewalks. The stairways will also serve, by using the passenger platforms, to cross from one side of the street to the other.

The road is to be, and can be, built with the strictest regard to safety, so as to absolutely prevent any chance of accidents or danger, as well in entering or leaving the cars as while in motion.

The road being, as stated, an elevated rapid transit cable road, is to have a strong trussed parapet, or rail, to insure perfect safety. Upon this railing the transverse beams of wood will rest. The piers or towers, thirty-eight feet from curb, to be of wrought iron, set at each corner of the curb at each intersecting street. The four and a half inch cables are to be composed of the best No. 9 gauge iron wire, each wire to stretch the whole length of the section cable, and the process by which the cable, without the requirement of costly machinery, can be manufactured on the spot makes this cable road not only the strongest, but also the cheapest railway that can be built.

The cables, constructed of 82 No. 9 iron wires, would then be able to bear a weight of 75 92-100 tons. By using, as proposed, 660 wires of the size named, the 4½ inch cable would be able to bear a load of 610 5-100 tons, or eight times as much as the cable ever would have to support. The motive power for this road will be furnished by dummy engines, or any other approved method of supplying motive power. The estimated cost of construction per mile will be as follows:—

For a four track elevated cable railway, $416,000 per mile.

Approximate estimate of rolling stock per mile, $20,000.

WEISS' ELEVATED RAILROAD.

In submitting his plan to the Commissioners Mr. Weiss says:—

I would propose an elevated railroad, with hanging cars for two tracks. The height of the posts would be forty-eight feet from the street. The dummy moves thirty-eight feet above the level of the street. The passenger car moves at the height of twenty-five feet above the pavement, and can be moved to a higher or lower grade *ad libitum*, without additional cost. By this construction all the noise and annoyance is moved above the seeing and hearing line of the inhabitants. The erection of this elevated road gives the clew to the unobstructed use of crossroads of the Greenwich street kind, as room enough is left for them to pass underneath. I proceed now to state the great advantages of my hanging system of rail cars. As a vessel on the ocean is always kept in its perpendicular position by its ballast, just so is the hanging car, and it appears that accidents are henceforth rendered impossible, as the hanging car cannot be thrown off the track like all others whose weight, always keeping them in a balancing motion, makes them liable to capsize as soon as an obstacle strikes the wheel. I would also remark that it would be most advisable to have my track traverse the city from south to north, so as to enable crossing railroads to pass underneath.

As it has also caused great controversy to find out a reliable and suitable mode for crossing the Harlem River at the terminus of the avenues to the newly annexed district without great cost, as well as without obstruction to the navigation, I would most respectfully call particular attention to my plan respecting this circumstance. The posts of my elevated road would have to be about sixty feet high in the Harlem River above the water's surface, and would, at such a height, allow all kinds of vessels or steamers to pass unmolested and without any annoyance whatever to the track.

Should it not appear advisable to have the railroad built through the centre of an avenue I would suggest to put the one track above the sidewalk and the other one right alongside of it, so as to cover about ten feet of the main road, thus leaving the remaining part of the avenue entirely free.

As the two tracks rest on three posts, the one post shall come to stand right close up to the house, the second at the opposite edge of the sidewalk and the third one ten feet into the main street. To prevent the barricading of doors or windows a post could always be put up at the joining point of two houses, the latter mostly having twenty-five feet width.

But, furthermore, I would remark that by having the railroad built over the centre of the avenue it would create the possibility of having another elevated track run underneath it, which would be less feasible by erecting such second track over the sidewalk, as the noise would become too disagreeable near the windows.

The public want rapid transit badly, but they are not willing to be annoyed by it. My plan covers these demands, and according to it every conceivable conveyance or railroad train can cross or pass underneath without the precautions of flag or switchmen—in winter as well as summer, in daylight as well as at night. As the Commissioners may at their own pleasure determine in what locality of the street to erect my elevated road, I would remark that it will anywhere give an elegant and grand appearance to the street. By erecting the track along the sidewalk, one post on the sidewalk, the other two on the broad avenue, these posts would take less than twenty feet space from the avenue.

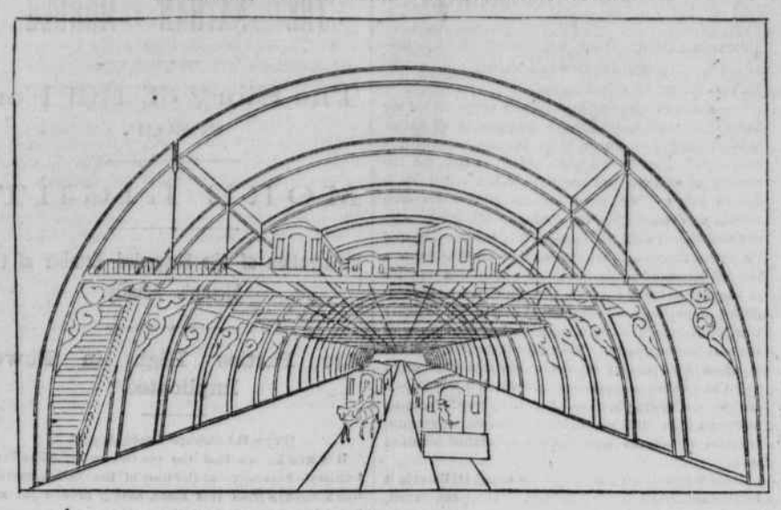
From the elegant promenade gallery one little cross-gallery in each block toward the balconies of the houses would be in case of fire a relief to the inhabitants (women, children and invalids) certainly better than the perpendicular fire escape ladders.

RICHARD P. MORGAN'S PLAN.

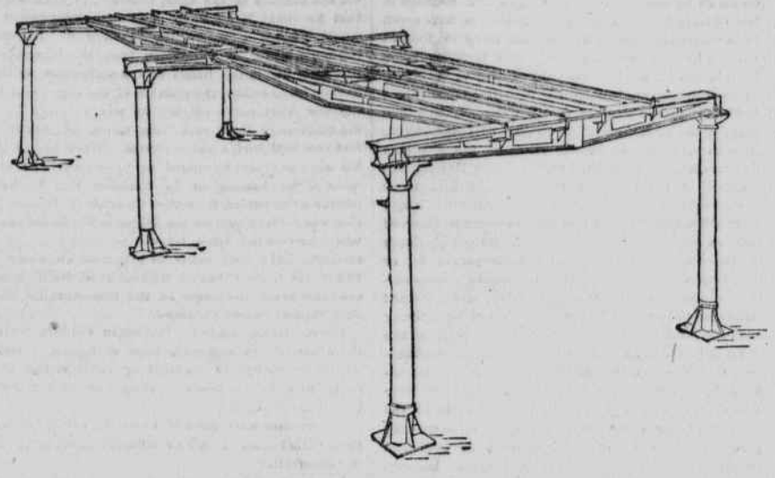
Mr. Morgan thus sets forth the main advantages of his proposed road:—

I have devised and patented a plan for sustaining a double track railway over the centre of the street at such elevation as not to interfere with its ordinary use, and occupying at the surface by the supports a space least in amount and value. It is evident that the edge of the sidewalk near the curbstone is the least useful for general purposes. Upon this space I propose to erect iron ribs opposite to each other and meeting over the centre of the street in the form of a Gothic arch, springing from a tangent line perpendicular to the sidewalk at the walk or at any suitable height above it, depending upon the width of the street or changes in the grade of its surface. Between these outer ribs a flat elliptical rib is placed at an elevation above the street, so as not to interfere with its use, and firmly secured to the outer ribs by such connections as will appear in the plans herewith submitted, and so as to form a competent transverse frame, such frames to be set up at suitable intervals, say about seventy-five feet, as an economical distance. The office of these frames is the same as that of the piers of an ordinary bridge, to sustain a series of longitudinal trusses, which latter carry a double track railway above and over the middle of the street. The cars move on the tracks above the elliptical and under the outer ribs before described. Carefully constructed foundations of masonry are brought up from any needed depth to the sidewalk, and there, capped with an iron bedplate and sleeve, to receive and unite with the exterior ribs. From the middle of the lower elliptical ribs to the apex of the outer ribs a longitudinal iron truss extends from frame to frame, and, aided by similar trusses on each side, supports the tracks. Between those outer trusses and passing across the bottom chord of the middle one are laid, at suitable intervals, the floor beams, also of iron, which directly support the tracks. These floor beams are to be connected diagonally, so that they shall act as a horizontal truss to prevent any lateral swaying of the structure, the whole to be left open so as to prevent the accumulation of snow or other obstructions, and to avoid interference with the light and ventilation of the streets as far as possible. The outer and inner ribs are firmly united by horizontal, vertical and diagonal connections, so arranged that the resultants of forces acting upon them, derived from the weight of the railroad and rolling stock, are uniformly resisted. The curved line of the outer ribs enforces their yielding in one direction only—outwardly—which is readily and effectually met by the interior connections. The railroad is thus suspended, and constitutes a load on the exterior of the arches equally distributed. The outer ribs are not bearing posts simply, unaided by the principles referred to, except that portion of them below the intersection of the interior rib with them, about ten feet in height above the foundations. For this portion of those ribs the necessary additional material is introduced to overcome the loss of sustaining power, compared with that of a straight post, occasioned by the slight deflection of the curved rib. In all other parts of the frames the greatest economy in the use of material is attained. Access to the cars is proposed to be given by covered ways and platforms, constructed of iron and glass, leading from stations provided at suitable intervals, and in which passengers can wait for the arrival of cars. These waiting rooms should be in the buildings on both sides of the streets, one for up and one for down cars, so as to make it unnecessary for any passenger ever to cross, or even to go upon the tracks. If the platforms are placed opposite the cross streets, as it is desirable they should be, the light of buildings on the street will be unaffected. The approaches to the waiting rooms will be by staircases in the buildings in which the waiting rooms are situated. The floor of the cars, the top chord of the side trusses and the floor of the platform leading from the station should be upon the same level, so as to offer no obstruction in obtaining access to the cars. The durability of the material employed, and the facility with which repairs can be made by reason of the ready access to every part and its being practically unaffected by rain, frost or snow, and its greater freedom by reason of its material and its location in the middle of the street, from danger of injury by the burning of adjacent buildings, combine to secure the perfection of the work, and thus insure the safety and regularity of trains passing over it. It is easily seen that such a road as this, suitably constructed, will approach more nearly to a perfect railroad than any road yet built ever has; it will have no switches on its line of travel to be misplaced; very slight irregularity of surface or of alignment in its tracks; and consequently the dangers of existing railroad travel, already less than those of any other means of communication, and which are mainly due to those two causes, will be reduced to a minimum. To some persons the fact that the road is at all points considerably elevated above the ground may suggest a fear of danger in case of accident by derailment. What is stated above shows the small risk that such an accident can occur; but even if it should the arrangement of the structure is such that the effect will be no greater than to a train running off a track on the level of the earth. The iron framework supporting the track will, in such a case, uphold the cars, and the side trusses will act as a real and substantial railing, so that in no case can the cars be precipitated to the ground. These considerations also demonstrate the increased capacity of such a road over one of ordinary construction. The more nearly perfect the road the greater the certainty with which trains can be worked upon it and the more frequently they may safely be passed over it. It is difficult to see why trains may not follow each other at no greater intervals than may be required to check the speed of one, so as to insure the safety of that immediately preceding it. These intervals, with the light trains proposed to be employed in passenger traffic, and their consequent small momentum, will be so short that no more than a single minute of time need be interposed on either track between the passage of trains, thus insuring a degree of efficiency such as has not been in practice attained on any road yet constructed. This frequency of trains is an indispensable element of success in whatever plan of road may be adopted, and without it neither the wants of the inhabitants of New York can be met, nor the confidence of capitalists to construct the road be secured.

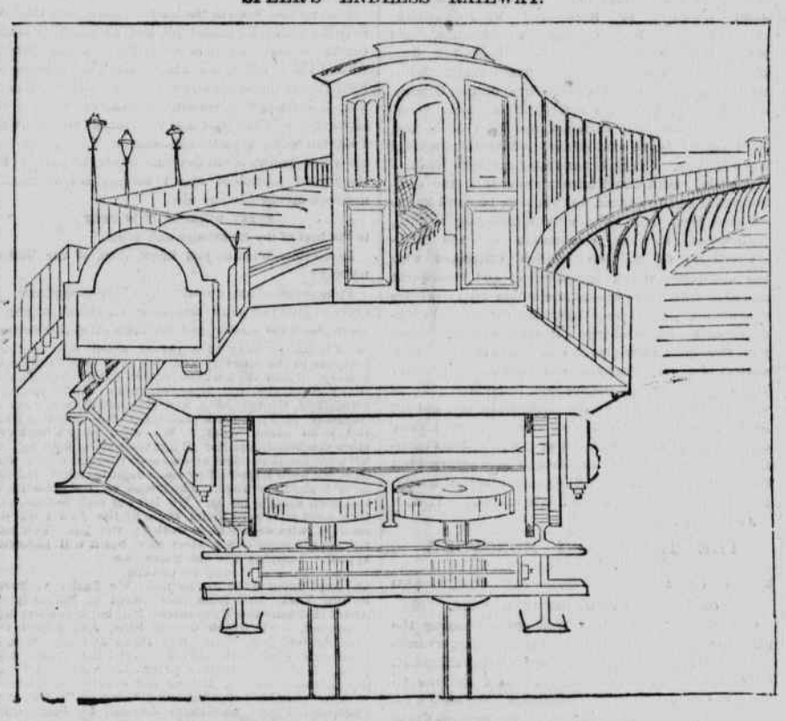
HULBERT, AUBIN AND WOODWARD'S PLAN.



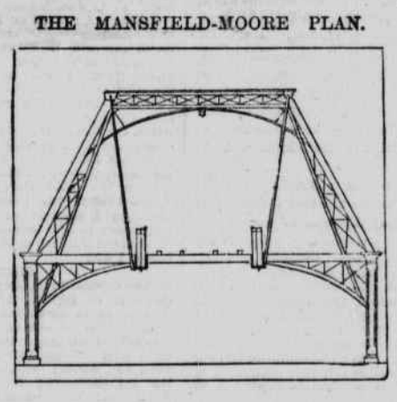
CORNELL'S PLAN.



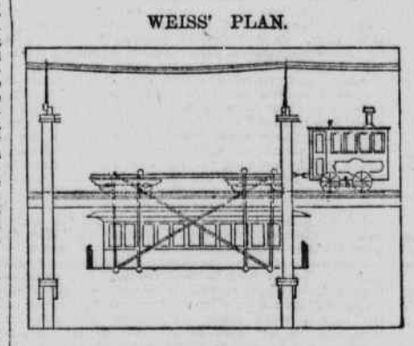
SPEER'S ENDLESS RAILWAY.



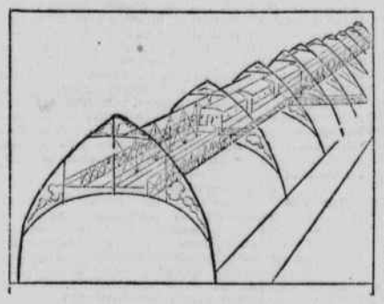
THE MANSFIELD-MOORE PLAN.



WEISS' PLAN.



MORGAN'S PLAN.



MR FRYER'S WATER LINE BELT ROAD.

TO THE EDITOR OF THE HERALD:—

More than eight years ago I published a pamphlet showing the impracticability of an underground road for this city and advocating an elevated road to be built on the water line of this island, forming a belt line along the river streets entirely around the island, and having crosstown lines, either horse car surface, or elevated steam cars, on plan like a gridiron. The underground plan, after being carefully examined by Mr. Vanderbilt and other gentlemen, has been laid aside for all time.

The Rapid Transit Commissioners, now sitting, are laying out a permanent work next only in public importance to the introduction of water, a system of sewerage or a supply of gas. Cheap and rapid railroad transportation is requisite for the future growth and benefit of this city, as well as to meet the wants of to-day. Every person has a direct interest in the commercial prosperity of this port. The carrying trade, foreign and domestic, needs all possible encouragement. With our rebuilt piers and bulkheads, wide river streets, fireproof warehouses and railroad facilities, the supremacy of this city will be assured. Merchandise traffic must be taken care of as well as passenger traffic. A loaded freight car coming from San Francisco needs to be run direct from the Battery or switched into a pier warehouse, the second story of which should be on a level with the elevated roadbed.

The Greenwich street Elevated Railroad, has limitedly filled the demand for passenger transportation. It is believed that the Commissioners of Rapid Transit will grant that corporation the privilege of constructing a line on the east side of the town. This will then give a double belt line for passengers up and down the central part of the city. That road is the best solution of an elevated road for avenues or streets. The general make-up of that road has always met with my approval. The Greenwich street road was the pioneer, and that company is entitled to such routes as will enable them to perfect their system.

To take up any avenue with a central line of railway, be it Third, Lexington, Madison or Eighth, will be doing great injustice to property owners on the selected avenue. The destruction of light, the noise, &c., will depreciate the value of property at least twenty-five per cent. The value of property along the length of any of the avenues is hundreds of millions, and its depreciation would equal the cost of building half a dozen railroads. Property owners have rights and they will not, without a bitter and long legal struggle, permit a road to be built. Such a road, at best, will destroy values of real estate along its line. Now, if an elevated road be built on the water line it will appreciate the values of property along its entire length, and will meet with no opposition.

I have sent in to the Rapid Transit Commissioners plans for a four track Elevated Margin Road to encircle the city—along the East River, the Harlem and the North River. The proposed construction of this road is wonderfully simple. At every distance of thirty feet are set up three iron columns, nineteen feet from centres. On top (stretching from column to column) are placed wrought iron plate girders and on these girders wrought iron beams are laid every two and a half feet apart, and on top of the beams the track timbers and rails are laid, thus giving a smooth, unobstructed roadway of four tracks, two for passenger and two for freight. The matter of stations and other details, such as gaslights, telegraph wires, &c., are such as any railroad engineer is competent to lay out. I propose this railroad as a railroad ought to be built, for all time, and not a claptrap construction. The route enables this to be done. All the rattle and noise, the destruction of light, &c., is comparatively of small importance on this route. Such a road would be a positive ornament to the city, and would fulfil the requirements of transportation of passengers and freight for a century to come. It accommodates people living opposite Manhattan Island—people in Brooklyn, Long Island, Jersey, &c. A proper system of crosstown lines would prove wonderfully convenient. The gauge of tracks to be the same as on the leading trunk roads of this country, so that engines and cars from the New Haven Railroad or the New York Central Railroad can run directly on the elevated road, the structure strong enough and entirely safe and secure. Lighter locomotives and smaller cars will also be used for passenger traffic.

Such a road will necessarily be an expensive one. Experienced railroad men have agreed that to properly build and completely equip such a road will call for a capital of $15,000,000. I have asked the Commissioners to adopt this route and this plan. I am prepared to furnish to them a bond in the amount of $250,000 that such road will be expeditiously built and put in operation.

WILLIAM J. FRYER, Jr.

NEW YORK, August 9, 1875.

PREVENTION OF RAILROAD ACCIDENTS.

For some time past the public mind in Newark has been exercised over the problem of how to decrease the number of accidents which are so prevalent on the various railroad tracks in the city. The only project that appears to meet the requirements of the case is to fence in the track in a somewhat similar manner to that which prevails in Jersey City. The principal objectors to this plan seem to be the property owners along the line, who think that their property will be depreciated in value should such a plan be adopted. On the other hand, the great majority of people who have thought on the subject, deny this and maintain that property will be increased in value in consequence of the additional safety that will be given.

At the last meeting of the Common Council a series of ordinances, was introduced by Alderman Hudson, of the Special Committee on Railroads, in favor of the erection of gates and fences along the different lines within the city, to be completed by the first of November.

It is understood that the railroad companies are quite willing to perform the work.

THE LIGHTNING TRAIN.

TIME EVEN FOR THIS GENERATION

[From the Deer Lodge (Montana) New Northwest, July 30.]

The NEW YORK HERALD now reaches Salt Lake City in four days and eighteen hours after publication. That's time for even this day and generation.

WHAT A SINGLE NEWSPAPER CAN DO.

[From the New Albany (Ind.) Ledger-Standard.]

The NEW YORK HERALD, which has led all its competitors in enterprise for years, and which years and years ago was noted among newspaper men as the wonder of the age, has lost nothing since. The HERALD seems determined that whatever can be accomplished by brain, muscle, steam and lightning shall keep it in the vanguard of newspaperdom. It now runs Sunday trains, carrying the morning edition, from the city to Niagara Falls, whirling along at the rate of a mile a minute, delivering the Sunday HERALD to the people hours in advance of the slow coaches of Uncle Sam. The HERALD of Monday last contains a description of one of these wonderful trips, and from it will be learned what can be done by pluck and iron will. Think of a lightning express train, under the direction and control of a single newspaper, dashing up the Hudson, and thence flying off to the lakes with a speed unrivalled, just to satisfy a public demand for a solitary metropolitan journal.

THE GLOUCESTER CENTENNIAL.

A GREAT DEMONSTRATION—THE CITY FILLED WITH VISITORS—A GRAND MILITARY PROCESSION—A DINNER AND ELOQUENT SPEECHES AND HISTORICAL ADDRESS BY HON. JOHN J. BABSON.

GLOUCESTER, MASS., August 9, 1875.

Although Massachusetts has had a surfeit of centennial anniversaries of the stirring times of the Revolution, they were not all exhausted until the celebration here in Gloucester to-day. First came the commemoration of the North Bridge affair in Salem, followed in rapid succession by the Concord, Lexington and Bunker Hill celebrations, and finally this staid but industrious and thriving town has had an enthusiastic demonstration in commemoration of an important and lively naval event which took place in her waters just a hundred years ago. The celebration, although hastily arranged, has been by no means an insignificant or modest one, and the occasion was made a general and pleasing holiday by all the inhabitants of Cape Ann.

REMINISCENCES OF THE EVENT CELEBRATED.

Just a century since—when Gloucester was then a thriving town of five thousand or six thousand inhabitants—an attempt was made by Captain Lindsay and crew of the British ship-of-war Falcon to destroy the town. The Falcon was one of the ships which had aided the British at the battle of Bunker Hill. On August 5, 1775, she appeared in Ipswich Bay, where an attempt was made to steal sheep from the farmers, but Major Coffin and a few of his neighbors made such a noise with a few stray muskets that the foragers thought there must be a whole company of troops and retreated. Lindsay continued to cruise around the Cape and, on August 8, fell in with two schooners from the West Indies, bound to Salem. He captured one and chased the other into Gloucester Harbor. The latter was run ashore between Pearce's wharf and Five Pound Island. Lindsay followed her as far as he could, came to anchor and prepared to take possession of her.

THE RESISTANCE OF THE CITIZENS OF GLOUCESTER

The citizens objected to this and commenced preparations to give the British a warm reception. The people had no guns mounted and little ammunition; but they got two old swivels, and, hastily mounting them on carriages, proceeded with these and all the old muskets that could be procured to protect the schooner. One of the swivels was placed under the direction of Captain Joseph Foster and the other under that of Captain Bradbury Sanders, both zealous patriots. Part of our men repaired to the wharf and the rest to the hill on the opposite side of Vinson's Cove. By this time Lindsay had manned two barges with fifteen men each, armed with muskets and swivels, and sent them, under command of a lieutenant with six privates, in another boat to seize the schooner and bring her under the Falcon's bow. As soon as they reached the vessel some of the bargemen boarded her at the cabin windows, whereupon

A SMART FIRE WAS OPENED UPON THEM

by our people on the shore, which killed three of the enemy and wounded the lieutenant in the thigh. The latter returned to the ship, and Lindsay then sent in the other schooner and a cutter he had to attend him, well armed, with orders to the commanding officer to fire on the "damned rebels" wherever he could find them. At the same time he commenced cannonading the town from the ship, and poured several broadsides into the most thickly settled part of the place. "Now, my boys," said he, "we will aim at the damned Presbyterian church!" "One shot more, my brave fellows, and the house of God will fall before you!" To complete the work of destruction which he had thus commenced the infuriated captain then sent a boat, with some of his men, to land on Fort Point and attempt to set the town in flames by kindling a fire among the fish-flakes on the beach; but this purpose was frustrated by a body of our people, who went round to the spot and made prisoners of all the men. During all this time the party at the waterside was performing wonders, and their bravery was at length rewarded by a complete victory. They got possession of both schooners, the cutter and barges, and with them took thirty-five men.

THE CASUALTIES.

In this fight two Gloucester men were lost; Benjamin Rowe was instantly killed and Peter Duriley mortally wounded and died shortly after. During the engagement shots struck several houses, and one which struck the Unitarian meeting house is still preserved. To-day it hangs in the centre of the same old church.

BELL RINGING AND SALUTES.

The celebration, as before intimated, was a modest affair, but yet it was very enthusiastic and enjoyable. There was the inevitable ringing of bells and salutes at morning, noon and night, and all the available banners and bunting for miles and miles around were appropriated for the temporary decoration of Gloucester. Early in the morning the citizens from the surrounding towns commenced to pour in *en masse*, and as for the Gloucesterites, none of them seemed to have any other business but to commemorate that Falcon gunboat affair of a hundred years ago. One of the conspicuous features of the day was a civic and military procession, which, for this place, was simply an enormous affair. It comprised the various militia and Grand Army organizations, the fire companies and various secret societies, the whole forming a brilliant and enlivening scene.

THE "NINE HUNDRED AND NINETY-NINES."

In the ranks was a new secret organization, denominated the "Nine Hundred and Ninety-nines," which, although it comprises several federal office-holders, is understood to be one of the sections of the Banks and Lamar ring against Grant and Wilson. After the procession had gone through the principal streets of Gloucester it wended its way to Cape Pond Grove, where the formal exercises and other festivities took place. There was an absence of windy orators and prosy speakers, and hence the dinner and general rollicking of the day was highly enjoyed by everybody. The Rev. Richard Eddy made a happy speech at the close of the dinner. Mr. John Babson also gave a brief address. There was the customary amount of traditional patriotism in everything that was said, and, of course, such sentiments were heartily applauded.

This evening the festivities were brought to a close by dancing.

A SKETCH OF GLOUCESTER.

Gloucester is noted the world over for its fishing industries, and latterly it has attained considerable of a reputation as a summer resort. It was incorporated into a town May 22, 1639, and into a city in 1873. There are five postal villages in the city proper. Bay View is a fashionable watering place on the northwestern shore. In the vicinity of Annisquam there are some immense boulders and rolling stones which attract the attention of the curious. One of these immense rocks, weighing over 300 tons, at Squam Common, is so evenly poised that a child can move it with its finger. At West Gloucester the scenery is very wild and romantic; at Thompson's Mountain, 205 feet high, the spectator has a most magnificent ocean view, extending, in a clear day, across Massachusetts Bay, a distance of more than forty miles, to Provincetown. East Gloucester is becoming more and more a fashionable summer resort. Gloucester has eighty-four farms, 2,162 dwelling houses and 5,000 legal voters. The city is very beautiful, having fine views of the harbor from Governor's Hill, only a short walk from the Atlantic House. There are three good hotels, the Atlantic, Webster House and Pavilion; a very fine City Hall, a free Public Library, the gift of Samuel E. Sawyer, and twenty-six schoolhouses. Gloucester furnished 1,500 men for the army and navy during the late war and about 100 of them were lost.

ITALIAN MARKSMANSHIP.

Joseph Proovizer and Joseph Bologne, both Italians, have for some time past kept a barber shop at No. 172 Greenwich street. Yesterday they determined to dissolve partnership. In dividing up the property they quarrelled about the possession of a hone. Proovizer finally drew a revolver and shot Bologne in the left side, inflicting a painful but not not dangerous wound.

MENTAL EXERCISE FOR THE POLICE.

An officer of the Fourth Precinct found a man lying insensible on the sidewalk at the corner of Oliver and Oak streets, at ten o'clock last evening. He had a frightful gash on the right side of his head, from which blood flowed profusely. Some bystanders said he was drunk and had fallen against the curbstone, while others said he had been struck with a club by one of a crowd of roughs who hang about the corner. He was sent to the Park Hospital.

A POLICEMAN RUN OVER.

Officer McBride, of the Eighteenth precinct, was run over by a runaway horse at the corner of Sixteenth street and avenue A last evening. He was very seriously injured.

A SING SING CANDIDATE.

Lawrence Kane was arrested last evening for having stolen $400 from Lotta Madison, of No. 133 East Thirteenth street. Two hundred and eighty dollars was found on his person. He was locked up at the Central Office.

UNLIKE CÆSAR'S WIFE.

John McCormac, James McGuire, Henry Murphy, Frank Richards and Timothy Regan were arrested on the Third avenue cars last evening upon suspicion of being thieves. They were locked up at the Central Office.

FIGHT FOR A FERRY.

The war between the Vanderbilt and the Garner Staten Island Ferry Companies seems likely to lead to legal troubles, whose discussion will be fierce and settlement long delayed. The Vanderbilt Company having closed the entrance to Martin's slip at Stapleton on Saturday, began other offensive operations yesterday morning. Men were put at work in driving piles just south of the New York Yacht Club house. It is intended to extend the Stapleton piers of the Vanderbilt Company 200 feet further out into the bay.