RAPID TRANSIT IN NEW YORK CITY.

The amended plans and a digest of the report for a scheme of rapid transit in New York City, which were submitted by Mr. W. B. Parsons, the chief engineer, at the last sitting of the board, will be found in the current issue of the SUPPLEMENT. They are worthy of the careful study of the citizens of the metropolis and incidentally of every one who is interested in the problems of city transportation.

It is safe to say that there is no municipal question—not even that of water supply—which is likely to become so perplexing in the twentieth century as that of how to handle the ever increasing multitude which day by day rolls like the flow and ebb of a tidal wave to and from the business centers of the great cities of the world. Questions of rapid transit are of the kind that cannot be taken in hand too early, for the perplexities which they have to solve grow by delay. The growth of urban population and the increase in the per capita travel is so rapid that provision for rapid transit should by rights be made well in advance of the demand for it; otherwise a city's traffic is certain to overtake and swamp its accommodation. This is the condition of rapid transit in New York to-day, where hundreds of thousands of its citizens are carried to and from the city amid miseries of overcrowding that are a positive disgrace to a metropolitan city.

The Board of Rapid Transit Railroad Commissioners was appointed about three years ago to deal with the whole question and provide a new railroad system. Its first plans called for a four-track underground road, beneath Broadway, from the Battery to the upper city, and above-ground tracks from the upper city to the suburbs. It was to cost something over $50,000,000. This scheme was vetoed by the Appellate Justices, who closed the Broadway route for underground roads, and declared the cost to be prohibitive. The plans embodied in the recent report of the engineer have been drawn to conform to the rulings of the court, which they do by avoiding Broadway altogether in the lower city and by bringing the cost below $30,000,000—on the face of it, a very reasonable figure for a work of this magnitude.

The present plan places the terminus at the Post Office, around which a loop would be constructed, so that there would be no switching or crossing of local and express trains. From this point there would be a four-track underground road beneath Center Street, Elm Street, and Fourth Avenue to Forty-second Street. Here the system would divide; one branch consisting for the present of two tracks, would extend beneath Park Avenue, alongside of the existing Harlem Railroad, to One Hundred and Tenth Street, where it would swing over to the left and proceed northerly as a three-track road to the Harlem River, the third track being used for express trains. Such a line would serve the extensive district lying beneath the Ninth Avenue Elevated and the present Harlem Railroad. The district north of the Harlem River and east of the Harlem Railroad, Mr. Parsons thinks, can be wisely left to be served for the present by the improved facilities which can be afforded by the Manhattan Elevated Railroad Company; and should this company refuse to extend and improve its facilities, it will be possible at any time to lay out and construct a new line.

The annexed district of New York lying to the west of the Harlem Railroad is to be served by acquiring private property, and building a railroad, elevated or depressed, as far as Tremont Avenue, where it would terminate for the present. Any further extension that might be required could be met by building an elevated road through Jerome Avenue.

Mr. Parsons is of the opinion that, before building this last extension, it would be well to open the underground road from the City Hall Park to the Battery. We fully agree with this suggestion, and indeed it is a question whether the Battery should not be made the starting point of the present amended scheme, and whether it would not be good policy to incur at once the outlay involved in the construction of this part of the line, even if the northern extensions of the road were curtailed thereby.

From Forty-second Street and Fourth Avenue a two-track road would be built through that street and up Broadway to Fifty-eighth Street, and a three-track road from there to Ninety-eighth Street. From Ninety-eighth Street to One Hundred and Thirty-fifth Street it would be continued as a two-track road, being carried across the viaduct at that point if so desired. Beyond this point the proposed cable or electric road of the Third Avenue line would give a through connection with Kingsbridge and Yonkers. It is further stated in the report that all the proposed roads on Manhattan Island are capable of being enlarged to four tracks.

The amended plans are a decided improvement over those rejected by the Appellate Court. The cost is only sixty per cent as great; and by taking the Elm Street route the difficulties of construction are greatly reduced and the objections from property holders avoided. Elm Street is to be widened, and the tunnel can be constructed simultaneously with this work, the cut being made in the open.

The opening of another great north and south thoroughfare contiguous to Broadway will greatly relieve the present congestion, and its underground road will undoubtedly give it in time an importance second only to Broadway itself.

By a study of the plans it will be seen that the rails will not lie more than about seventeen feet below street level; and if the station platforms are built level with the platforms of the car, it will not be necessary for passengers to descend more than thirteen feet to reach the train.

Horseless Carriages for Mail Service.

The Railway Mail Service, which has charge of the wagon deliveries in New York City, is about to experiment with horseless wagons with which to collect mail from the street boxes. The matter has been under the consideration of Second Assistant Postmaster-General Neilson for a long time, and discussing the question in his annual report, he says:

"It is hoped that the experiments with the horseless wagons, which will be tried during this fall, will be successful, and will enable the department to put these collection wagons in service at a greatly reduced expense, the theory being that the horseless wagon will be very much less expensive to operate than the horse wagon. This will be thoroughly tested, and the information that is needed gained in a very short time. The horseless wagon that is being constructed is built upon identically the same plan as the horse wagon, and will accomplish exactly the same result as far as the service goes, the only difference being in the mode of locomotion."

Data of this kind would be very valuable and render more real service to the industry than the offering of prizes for races in which the element of speed is too often considered in advance of the real practicability.

It is only a short time since the improved collection wagons were tried in New York City. The experiment has proved a complete success, for the new service accomplished all that was expected of it. Superintendent Bradley, of the Railway Mail Service, in an interview said:

"Our experience with the collecting wagons now in the service has demonstrated their usefulness beyond all doubt, and I consider them a pronounced success. They are not intended so much to save time in the transmission of mail from points of collection to receiving stations as they are to expedite the handling of the mails. This they certainly do. As it is now, mail collected from street boxes by one of these wagons is stamped, assorted, separated, and made ready for immediate shipment to points of destination as soon as it reaches the station. All the time it is in transit is thus used to good advantage. When we have a sufficient supply of these wagons, we can take mail collected from the street boxes to postal cars direct, without sending it to the general office or to stations at all. This will improve the service in all parts of the city and save much time."

The horseless wagon now building will be put in use in New York City in a week or so. A representative of Superintendent Morgan, of the City Delivery Service, said that it was the general impression that the horseless wagon service, if a success, would be used entirely in the upper and suburban parts of town, where the pavements were good, the streets less crowded, and the distances between the boxes and the branch post offices longer.

The Berliner Telephone Patents Case before the Supreme Court.

The case of the United States against the American Bell Telephone Company was argued in the United States Supreme Court on November 11. In some respects the case is regarded as among the most important before the court, as it involves the validity of the Berliner patents, owned by the Bell Company.

Attorney-General Harmon, Solicitor-General Conrad, and a number of attorneys representing special interests, appear in connection with the suit of the United States, while the Bell Company has a heavy array of counsel, including Messrs. James J. Storrow, James H. Choate, and Frederick P. Fish. The Standard Telephone Company is represented by General James McNaught and Myron Francis Hill, who have filed a brief on two points in behalf of the government. The Standard Company has no direct interest in the litigation, except as it affects the general use of telephones. It is said that a decision in favor of the government would tend to open the telephone to public use.

Owing to the importance of the interests involved, the court granted nine hours for argument, which will continue the case for about three days. Judge R. S. Taylor, of Indianapolis, opened the argument on November 11 in behalf of the United States.

HISTORY OF THE SUIT.

The suit began February 2, 1893, when the Attorney-General filed a bill in equity against the American Bell Telephone Company and Emile Berliner, asking for the annulment of its patent. An alternative prayer was made that if the patent was not declared wholly null and void, it should be repealed in part, as the court determined proper. The Berliner application for patent was filed June 14, 1877, but the patent was not issued until fourteen years thereafter.

The main points raised by the United States are:

First—That the patent is void for illegal delay in its issue.

Second—That it is also void on the ground that a prior patent was granted upon the same application to the same applicant for the same invention.

The patent covers what is known as the microphone. The Attorney-General will set up that the Bell Telephone Company "designedly and with intent to thereby prolong its monopoly, delayed and prolonged the pendency of the application for more than thirteen years after its control of the patent."

The Bell Telephone Company, in its answer, points out that the United States officials from the first have had entire control of the application for patent, and an express denial is made that there was any fraud, accident, or mistake. The company maintained that it had not designedly delayed the issue of the patent, with a view to extending its rights. It alleged that if there was any slowness, it was the act of the plaintiff itself, the United States.

The case was tried in the United States Circuit Court for the District of Massachusetts, where the contentions of the United States were sustained. The Bell Company appealed to the Circuit Court of Appeals, where the preceding decision was reversed on the ground that there was no evidence of dereliction of duty in the Patent Office, and the bill in equity of the United States was dismissed.

The case now comes before the Supreme Court on an appeal by the United States from the decision of the Court of Appeals. The same points first presented, as to delay, are still foremost, and the arguments of counsel on November 11 were directed mainly on these points.—Washington Post.

The Cire Perdu Process.

The revival of the "lost art," or ancient wax process, in sculpture has lately been accomplished in this country by a well known Rhode Island artist, Hippolyte L. Hubert, notably in a bust of the late Judge Carpenter of that State, says the New York Sun. The process is public, except in one particular, the hardening of the gelatine used. The clay or plaster bust is covered with a clay coating of even thickness; this is again coated with plaster, the clay being used to give the thickness of the gelatine; both clay and plaster are then removed in two sections. The clay is taken from the plaster and the space between the work and the plaster filled with gelatine, prepared by the secret process to resist the action of heat. The gelatine is cast into two moulds, closely adhering to every feature of the work, and is now prepared to receive the wax, which is attached to the gelatine mould until a thick enough coating is obtained, when the gelatine mould is at once removed, and may be melted and used again. The whole secret of the process is in the preparation of the gelatine so as to resist the action of the hot wax. The wax model thus obtained is hollow and very light, is an exact reproduction of the original bust, and may be given any finishing touches that the sculptor desires. Being susceptible to the action of the atmosphere and of heat, these wax models are kept floating in water until the time they are conveyed to the foundry. The work of the sculptor is then finished, and the success of the casting depends, of course, on the founder.

The Late Henry A. Mott.

Dr. Henry A. Mott, the well known chemist, engineer and author, died on November 8, in New York City. He was born at Clifton, Staten Island, in 1852 and was a grandson of Dr. Valentine Mott, the distinguished surgeon. He took the degrees of Engineer of Mines and Bachelor of Philosophy at the School of Mines, Columbia College, and in 1875 received the degree of Doctor of Philosophy. After a study of chemistry he acted as an expert and conducted some remarkable cases relative to the adulteration of baking powders with alum and also butter substitutes. In 1881 he became Professor of Chemistry in the New York Medical College and Hospital for Women. He was a member of many learned societies and wrote able scientific works, among which are "Was Man Created?" "The Air We Breathe," "Matter, Force and Energy," "The Chemist's Manual and Chart on Food." He was the author of many minor works and papers.

Our Anniversary Number.

Our supply of copies of this great semi-centennial number, although the edition was so large, has now become so limited that we again remind subscribers and others interested who desire a copy for perusal or preservation that they should be prompt in sending in their orders. It has been found necessary, as previously announced, to advance the price to twenty-five cents a copy, which should be sent with the order.