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## the rlevated roads and the rapid traybit PROBLEM.

The judgment of the Appellate Justices upon the late proposal of the Rapid Transit Commission should be read by every citizen who is interested in the subject of increased transit facilities. It judges the question frow a broad standpoint, and shows a conservative regard for the permanent interests of the city. The court points out that the scheme, as presented for its judgment, was very incomplete, and that the data upon which the estimates were based was insufficient to give them any reliable value. It is pointed out that the cost of most of the great engineering works has exceeded the first estimate, and always by a large amount, and it is argued that there are problems involved in the execution of the proposed work which render the question of its final cost extremely problematical.
With the verdict of this court against it, the underground tunnel may be considered as out of the question, at least for many years to come. In any case it was a scheme which would have been attended with serious drawbacks; and were it now completed and in operation, it would have to contend with the natural repugnance of the people to descending a flight of stairs and burying themselves in an artificially lighted and more or less imperfectly ventilated tunnel for a quarter or half an hour as the case might be. It is quite a question as to whether the light and air of surface travel would not be considered to more than outweigh the superior speed of the tunnel route. It is a noteworthy fact that although a belt syotem of underground lines is in operation in the city of London, there is a large proportion of travelers who prefer the surface transportation in cabs and omnibuses in spit
The construction of the tannel being out of theques tion, attention will naturally be directed to the ele vated roads; for in the extension and improvement of this system is to be found an alternative scheme which would provide the city with greatly improved facilities at a comparatively early date. We have good reason to believe that these roads would have been extended and improved before this if the city had shown any disposition to grant the neceseary permission. The company have more than once professed themselves to be ready to make the much needed alterations and additions, and about the time that the question of building the Broadway tunnel was submitted to the Appellate Justices, the officers of the Manhattan Elevated Roads again manifested a commendable desire to meet the convenience of the public by extending their system and quickening their service. Certain plans and promises were made to the mayor of the
city, all of which would seem to indicate that the ompany was desirous to make a reasonable provision for the needs of the $200,000,000$ passengers who annually serve to swell the dividends of this very success? monopoly. It was not suggested that the proposed extension was to be made in any way dependent upon the rejection of the Broadway tunnel scheme; and a proposed outlay which was considered expedient in the face of a nowerful competitive scheme must be doubl
expedient now that this scheme has fallen througb.
expedient now that this scheme has fallen through.
If the officers of the elevated roads are sincere
their expressed desire to extend their system, the next and immediate step should be to place their proposal before the Rapid Transit Cowmission-a commission that was created for the express purpose of receiving such suggestions. If there is any doubt as to the legal status of the commission, there are other means by status of the comuission, there are other means by
which the proposals of the company can be made which the proposals of the company can be
known to the citizens and passed upon by them.
known to the citizens and passed upon by them.
The matter is an urgent one, and there can be no possible excuse for a lengthy delay upon the part of the company. On the other hand, any proposals that may be offered should be judged with the sole object in view of the city's best interests. If the elevated been have been enormously proftable, they bave also through the mayor have been made, as we believe, in good faith, they should be at once accepted and the good faith, they should be at once accepted and the
company given every opportunity to carry out the extension.
If, however, the elevated roads should make no further move looking to extension of their system, the city should use the strong arm of the Legislature in its behalf. The case is too serious to admit of delay. The volume of travel is steadily increasing and already in some quarters it fairly swamps the accommodation provided for it. Many of the terminal stations are nightly filled with a strugeling roob, in which the ? commonest laws of chivalry seem for the nonce to be forgotten, and strong men elbow frail women in the wild rush to secure the much coveted seat-and this in the representative city of what should be, and in most regards is, the most progressive conntry and people in the world!

A FOSSIL bird, represented by a piece of a bone from a bed of clas on Vancouver Ifland, is described by
Cope, who thinks that it may have been "the largest bird of fight thus far known."

## OADS WITH COMPRESSED AIE HOTORS.

The Metropolitan Traction Company, which controls altogether about 132 miles of street railway in this city and carries daily upward of 650,000 passengers, is contemplating an important change in the motive power of a large portion of its lines. About 32 miles of the system are at present operated as cable and underground trolley lines, and the plant is of the latest pattern and thoroughly up to date; but the greater part fully 100 miles of the lines-is still worked by the slow and objectionable horse car. Several months ago the company determined to abolish the horse car and introduce in its place some form of mechanical traction, and in the interval their agents have been making an exhaustive examination of the many systems of street car traction which are being operated in Europe and America.
It has been determined to make a thorough trial of a compressed air motor which has been designed by Joseph H. Hoadley, of the engineering firm of Hoadley Brothers, who is now associated with the American Wheelock Engine Compaiy, of Worcester, Mass. We are informed by the Metropolitan Company that at a private trial recently had at the Worcester worke before the engineers and officials the Hoadley motor showed a remarkable efficiency, as compared with any compressed air motor which they had previously subjected to trial. At present ten of the company's cars are being equipped with the new motor, and if they prove as successful in service as the experimental car which was recently tested, it is likely that all the ex isting horse car roads will be similarly equipped.
The air will be carried in two cylindricsl steel tanks olaced between the trucks and beneath the floor of the car, and they will be charged at an initial pressure of 2,000 pounds to the square inch. The power house at 147th Street and Lenox Avenue will contain a 500 horse power Greene-Wheelock engine and a Minerva air compressor, the reservoir capacity of the plant being 5.000 cubic feet. The compressed air motor is being adopted in preference to trolley or cable traction, not merely from motives of economy, but also with a view to securing a service which shall be free from the interruptions to which the cable and trolley systems are liable.
The operation of these cars will be watched with close attention, not merely by the company which is making the experiment, but also by the engineering world at large. Engineers in the United States have been so fully occupied with the development of electric traction -and it has had a growth and a success which is phe-nomenal-that comparatively little attention has been paid to other methods of traction which utilize the oil, gas, and compressed air motor. As compared with the cost of the electric and cable systems, the compressed air and gas motors which are being increasingly used in European cities are said to be showing remarkably economical results. Chief Engineer Pearson, of the Metropolitan Company, is now in Europe for the purpose of personally inspecting the working of some of the more important plants that are operated on the bove systems.
On another page will be found a description and illustrations of a compressed air locomotive, which has proved very successful in the mines of the Susquehanna Coal Company, Glen Lyon, Pa. The chief engineer of the company, Mr. J. H. Bowden, states hat the cost of operating this piant is between 1 and $11 / 2$ cents per ton per mile, and that, with the introduction of a better type of coal car, he expects to make a still more economical showing.

For the second time within the present generation he city of St. Louis has been visited by that scourge of the Mississippi Valley, the tornado. It was on the evening of March 8, 1872, that the ever meniorable yyclone carried death and destrinction through this ill-fated city : and to-day the citizens are again occupied in the sad task of burying the dead and caring for the wounded that have been smitten by this worst forin of nature's savagery.
The full cyclonic force of the storm of Wednesday vening was not felt at the outset, but appears to have been preceded by a violent wind storm, which swept over the whole city at the rate of eighty wiles an hour. This was succeeded by a heary deluge of rain, in the midst of which the cylone developed in the sonthwestern suburbs and cut a wide swath of destruction through the city. Crossing the Mississippi in the neighborhood of the Eads Bridge, the upper works of which were badly wrecked, it laid low a large part of East St. Louis, and demolished a vast amount of shipping and also a long stretch of warehouse property that was standing on the river front.
The destruction was wrought with that speed and completeness which marks the passage of a tornado, and in a few minutes some 400 to 500 are estimated to have been killed outright and over 1,500 wounded, while the damage to property will amount to many millions of dollars. The details of this sad calamity arc too well knomn to call for any repetition. Beyond

