

A CORNER IN THE GREAT OUTBOUND CONCOURSE.

There will be comfortable accommodation for 15,000 outgoing passengers and for 8,000 inbound passengers at one time.

Northward this continuous train might circle between here and Albany. Through the old Grand Central twenty-one million passengers passed to and fro last year. Owing to the perfection of this new arrangement five times as many, or more than the whole population of the United States, can be handled just as easily in twelve months.

The network of the two stories of tracks converges and narrows down to four parallel lines of steel at the entrance of the tunnel under Park avenue. But the utility of these four tracks has been more than doubled. The "neck of the bottle" is no greater than before. It is the stream of trains that earn money that can be handled through it that has been increased. Under the old arrangement the empty passenger cars, when they had completed their journey, had to be hauled out through the tunnel to Mott Haven, and brought back again when they were cleaned. As the new terminal is planned they will simply swing around the loop when empty and run over to the yards at one side below the street level, where they will be made ready for the next trip. During the morning rush hours it will be possible to use three of the four tracks for incoming trains, and in the afternoon, when the tide of traffic sweeps northward, the conditions may be reversed. Some day, perhaps, there may be another sub-surface level beneath the four tracks as they now exist that will allow of using the entire capacity of the station, but with the lengthening of trains and cars this will not be necessary for some years to come. When the improvements are completed a train can be handled over each track every two minutes. This means that every 120 seconds three trains can pass in or out. All, of course, are handled by electricity. On the Harlem Division the electric zone now extends to White Plains. Along the Hudson River it runs to Yonkers, although the electrification is to be completed as far north as Harmon, thirty-three miles from New York.

Electrical operation is largely responsible for this remarkable facility in handling trains. Under steam it would not have been possible to run them around loops in such a restricted space. In steam service the maximum curvature is 15 or 16 degrees; in electricity it is 21 or 22. The capacity of the station will be so

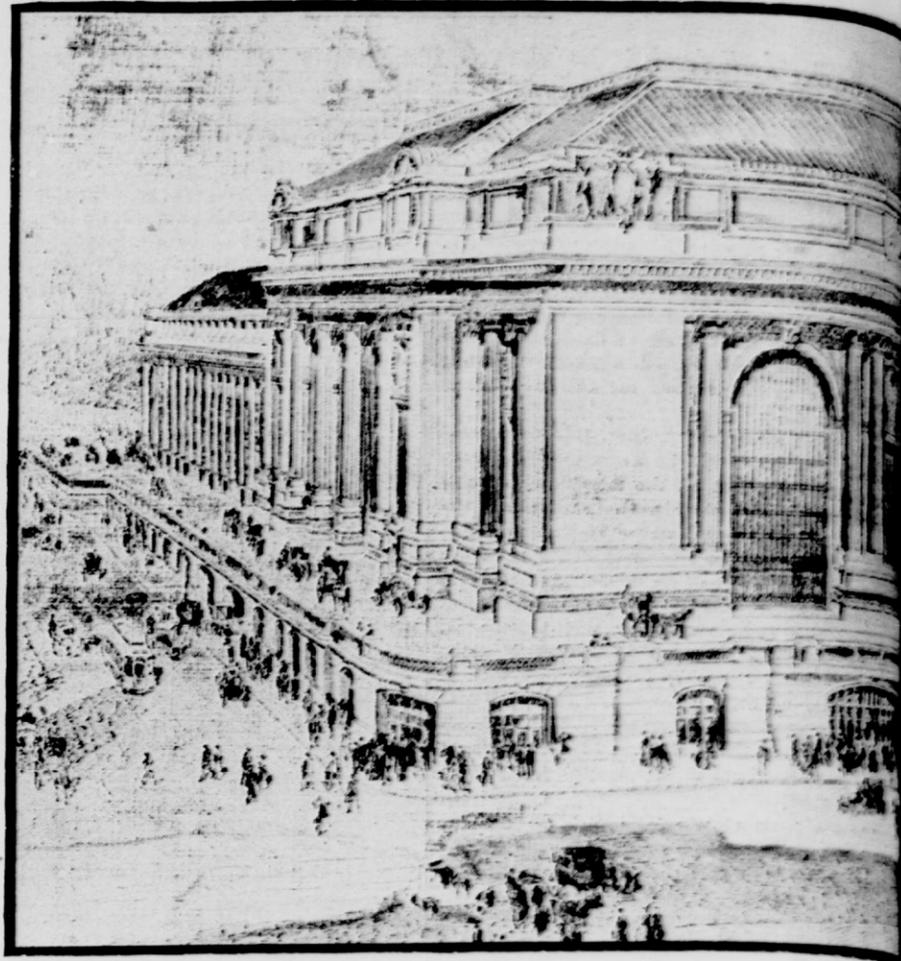
great that trains will not have to be turned so quickly and it will not be necessary to drive people out of them or to pile them in with such haste as is the custom in most great railroad terminals to-day.

Every known device to facilitate the movement of trains will be installed in this great terminal. For years the Central's experts have been studying and testing inventions not only in this country but in Europe. They have been going about all over this country and abroad hunting for new ideas. Everything that has been found practicable has been adopted and is being put into use. An all-electric signal system has been installed. It is the only one of its kind in the United States, and is the latest and most perfect that has been devised.

One detail of it is that when the gate through which the passengers enter on the train platforms is closed, just before the train starts, its shutting is signalled electrically, not only upon the platforms but to the towers from which the movements of the train are controlled. Automatically all those concerned are notified that the train is ready to go out. The signal is given simultaneously clear up the main line so that the men in the distant towers there will know that the train is coming. This saves not only seconds but minutes over the old system which is in use on practically every other railroad in the world. The essence of it all is that every train must move on time to the second.

When the passengers arrive in one of the old style steam terminals of to-day they step out upon a platform in a lofty train shed where the air is filled with the clanging of bells and the roar of trains that echo thunderously. The transition of the traveller from the Pullman car or the day coach that has been his home for so many hours that every detail of its interior has become familiar is startling to him. Even the most experienced travellers do not escape a certain feeling of trepidation at reaching their journey's end, even though they may have passed through the same big station before and know the road to the place where they have elected to stop.

This new terminal at the Grand Central is built on an entirely different plan. The essence of the idea that runs through all its designing and has been the subject of years of study on



THE NEW MAIN BUILDING THAT WILL RISE

The picture shows clearly how Park avenue will be extended north from its high level at structure and thence as a new street will stretch

the part of the most expert men in America is this: How to build a station so that John Smith or Mary Jones, who have never been in New York, can arrive at the Grand Central terminal and pass through it to where he or she is going with the least possible confusion and the utmost tranquillity and peace of mind. That is really the ideal that has to be sought after in the construction of a great railway terminal nowadays. The high, arched architecture of the railway stations had its genesis in the gate of the walled city ages ago. It is the entrance by which all travellers arrive and depart. If their comings and goings be pleasant they will pass that way again. But the modern railroad station must be arranged so that the arriving passengers may not jostle those who are hurrying to catch their trains.

When passengers arrive at a modern railroad station below the street level they must not feel as though they were stepping into a cellar. They emerge, perhaps, from a highly polished, mahogany trimmed sleeper. Its roof is low and it has been their home for a day or a day and a night or longer. When they end their journey at the new Grand Central terminal they will hardly mark the transition from the elegance of their temporary home on wheels. It will be like passing from one handsome apartment into the great corridor of another. The platforms will be on the same level as the floor of the car and there will be no torn dress skirts or lacerated feelings that are the daily features of this transition nowadays. The great corridor which the passengers will enter will be softly lighted. Its ceilings will be low, and its walls will be colored in restful tones. There will be no confusion. At most only one other train or track will be in sight. The vista down which they walk will be pleasing to the eye, and will seem like one big, long room. From there they will pass out into the "kissing gallery." That is what the railroad people call the place where the people wait to meet incoming travellers. In this "kissing gallery" there will be room for double lines of people, each 100 feet long—plenty of space and no confusion for the welcome. There will be three of these "kissing galleries," which ought to be ample even when travel is heavy. The track on which each train arrives will be announced, so that there will be no trouble in getting into the right "kissing gallery."

Another carefully considered thing in the construction of this terminal is the elimination of stairways. Wherever possible, gently sloping inclines take the place of steps. An incline is better than a stairway because it is easier for everybody, particularly so for the very young or the very old. Even the middle aged man or woman finds it more comfortable.

All these inclined ways are located in direct lines of traffic, so that the immense crowd that moves to and fro will never have to turn any corners or to turn around and go back. In other words, to handle the millions that will sweep back and forth through this gateway, everything is arranged to avoid all possible friction or confusion. It will not be necessary to teach people where they should go; they will naturally move in the right direction.

The exits and the entrances to this great gateway have been planned with the same care. Primarily, it was assumed that on some rush occasions the crowd might spread out hesitat-



LOOKING NORTH ON PARK AVENUE

The new terminal will have four levels. The level. The track level for through train way lines. The third level will be for tracks for handling inbound and out-