measures one hundred feet in circumference. The Mexican Southern began operation in 1891, and for a short distance parallels the Interoceanic Railway.

When we consider how important a city Oaxaca has been without the railway, we may form some idea of how it has now commenced to take giant strides in population, commerce, and influence.

The Mexico, Cuernavaca and Pacific Railway, though the last of the thirty Mexican railways to begin construction, is specially worthy of mention for its beautiful scenery and unequalled panoramas. The line is destined to reach the Pacific port of Acapulco. Forty-six miles of this road have been completed from Mexico City to Las Tres Marias, with active building now in progress and preliminaries going on toward the building to its Pacific terminus.

Hon. Thomas Braniff.

This is, without question, the scenic road of Mexico. Leaving the city, it runs through pretty suburban farms, gradually ascending to Contreras, where one has a complete view of the Valley of Mexico, with its old capital at your feet. Here you have a panorama embracing at least fifty miles in length and twenty-five miles in width, with the lakes of Texcoco, Chalco, and Xochimilco and the white walls of over twenty villages and Chapultepec Castle gleaming below. All the way up the mountain-side from Contreras to Arenal this vast panorama is in view. Then you pass the foot of the old Ajusco volcano, which centuries ago bathed the country in lava, through which the line now runs. Next the wide forests of Huitzilac are reached, where huge pine-trees, bending to the breeze, wave you a welcome. At Tres Marias,—or the Three Marys, of whom there is an interesting tradition,—three thousand feet above Mexico, you see the broad valley of Cuernavaca four thousand feet below, stretching out seventy miles, green with the cane-fields of the sugar plantations and dotted with the villages which surround the mills. There, too, is the beautiful city of Cuernavaca, with its picturesque suburbs and orchards full of coffee-plants and fruit-trees. The route of this road is also made interesting by legends of the past, the crumbling ruins of ancient cities, fortresses, and temples, the mysterious caverns trending and winding for miles underground, in which subterranean rivers flow, fishes and birds abound, and the most fantastic forms of stalactites are found; and here is the palace the conquering Cortez built for a residence, which the visionary Maximilian occupied when weary of politics and the din of arms.

These roads are sufficient to give an idea of what may be seen and studied in Mexico while travelling with comfort and, if you wish, with luxurious ease and every commodity at command.

Colonel Joe H. Hampson is the young president of this road,—another American who has

reflected lustre from the United States. He is no ordinary man. Resolute and indefatigable, every one regards him here with pride and affection as a typical American whom success and fortune have left unspoiled, a worthy continuer of the great traditions of the American railway-constructors in Spanish-speaking lands. Open-handed, liberal to a degree, a born commander of men, Hampson is of the Cecil Rhodes type, a developer of new regions, one of those men who were born for great affairs.

These new lines, pushing on to the Pacific, Huntington's in Northern and Hampson's in Central Mexico, will enable Mexican manufactures, working on a silver basis, to reach out for the west coast trade of South America. And it is believed that the Mexico, Cuernavaca, and Pacific road will open up extensive coal-fields in the state of Guerrero, cheapening fuel over a large region.

After fourteen years of work and ten million dollars of expenditure, the National Tehuantepec Railroad, running across the Tehuantepec peninsula from Salina Cruz on the Pacific side to Coatzacoalcos on the Gulf side, has been completed. This railroad is just now recognized as one of the most important railroads in the world. It is one hundred and twenty-two miles long, and the Mexican government owns and controls the line. The Tehuantepec Railroad will in time revolutionize the freight traffic between San Francisco and New York, because the route is shorter than by the Isthmus of Panama by fifteen hundred miles. An international interest has been awakened in this Mexican enterprise, and the route to China from important foreign ports is shorter by seven hundred miles than *via* the Suez Canal.

By a strange freak of topography, at Tehuantepec Isthmus is the only break in the Sierra Madre Mountains from Guaymas to Panama, a distance of nearly two thousand miles. At Salina Cruz, where the railroad terminates, the greatest altitude is only seven hundred feet above sea-level, and there is a natural break of thirty miles across through the low mountains, making an easy passage for the road. Here, also (at Salina Cruz), is a fine open roadstead. The harbor on the Gulf side is superb, having a depth of thirteen feet six inches of water, with a hard clay formation and no sand-bars. After crossing the bar, and for a distance of thirty miles up the Coatzacoalcos River, there is a continuous depth of forty feet of water, doing away with the necessity of lighters, an unavoidable and heavy expense at Panama.

When all improvements are completed, the commerce of the world will seek this route for trade between Europe and California, the western parts of Mexico, the Pacific States, and the western coast of South America; besides, this route must be preferred to Suez, particularly in trade with Chile, Peru, and Ecuador.

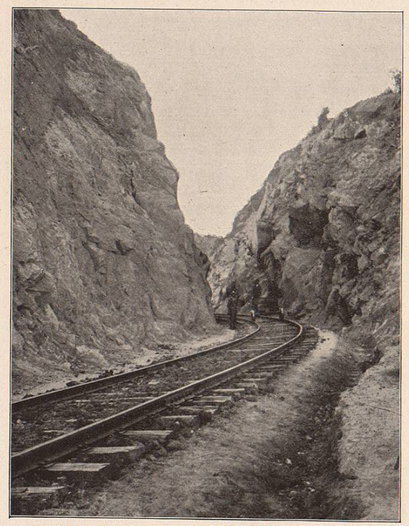
The Tehuantepec Isthmus improvement provides for the development of two great harbors and the construction of the Tehuantepec Railway. At Coatzacoalcos, the harbor on the Atlantic side, the contract will call for the expenditure of two million five hundred thousand dollars. At Salina Cruz, on the Pacific side of the isthmus, it is estimated that four million five hundred thousand dollars will be spent.

Very elaborate will be the work of building a harbor on the Pacific side of the isthmus. Salina Cruz is an open roadstead with a depth of fifty feet of water only a little way out from the shore. A harbor is to be made by the building of two breakwaters. One will be three thousand five hundred feet long, the other will be an elbow and will have a length of eight hundred feet. The contract adopts the ideas of Mexican engineers, which are a compromise or combination of all the proposed solutions for this harbor problem. Rubble and concrete will be used in the construction of the breakwater, which will be practically a sea-wall. The height of the wall from the foundation to the top of the parapet will be seventy feet. There will be

sixteen feet above water at high tide. At the base, on the sea bottom, this marine breakwater will have a width of three hundred and fifty feet. The thickness will narrow as the wall rises, and at the parapet the wall will be twenty-four feet. Six years is the contract time allowed for the completion of the Salina Cruz harbor.

The contractor who is completing the twenty-million-dollar contract at Vera Cruz is the one who has undertaken the harbor improvements at Coatzacoalcos and Salina Cruz, with the reconstruction of the Tehuantepec Railway and the concession to operate it for fifty years. He is Sir Weetman Pearson, an Englishman, the foremost contractor in the world. He built the drainage-canal to relieve the city of Mexico. He is building the Blackwell tunnel under the Thames; he is constructing irrigation-works in Egypt at a cost of twenty-five million dollars. The character of his achievements inspires confidence that is having great effect on Southern Mexico.

For a distance of fifty miles up the Coatzacoalcos and Uspanapa Rivers the landscape is one long stretch of low and level country of extremely fertile soil and covered with a luxuriance of tropical vegetation that is not surpassed in the world. Birds of startling plumage brighten the scene, and the water, clear as crystal, cuts its way to the sea through bowers of green rich in color and gay with song. This is the native home of cacao, from which chocolate is made. In a picturesque casa by the water-way one may enjoy the most palatable dish ever tasted. It is prepared by the Indians from a green chocolate nut mixed with fresh cheese and covered with slightly boiled juice of the sugar-cane. The little Indian village of Jaltipan is said to be just as it was when Cortez met the beautiful Aztec princess there. It was from that village that Cortez wrote to Spain describing a new paradise. What is attracting a large amount of American capital is the coffee industry, and here the advantages for profitable production are unequalled. Seldom are found such depth of soil, such evenness of temperature, and such abundance of rainfall, combined with cheap and quick transportation, as in the new coffee districts in this Tehuantepec isthmus. The temperature never rises above ninety-two degrees and never sinks below sixty. The trade-winds from the Pacific sweep across the snow-capped peaks of the Sierra Madre range and are forced through the break at Tehuantepec as through a funnel.



Along the Cuernavaca and Pacific Railroad.

To reach Mexico from New York I have found the Pennsylvania road by far the best route. The beautiful scenery along the Horse-Shoe Curve up among the Alleghanies is a fitting preface for a journey to picturesque Mexico. From the Pennsylvania system you make the best connections at St. Louis or Chicago to reach either of the Mexican borders with fewer changes and more personal comfort.

At Chicago take the Santa Fé for El Paso, Texas, where you pass the Mexican line at Juarez; at St. Louis the Louisville and Nashville connects at New Orleans with the Southern Pacific for Eagle Pass and Ciudad Porfirio Diaz. This latter route I would advise in returning to the East in winter from Mexico, as you gradually get into the colder climate without feeling the change.

To reach Mexico by water, the Ward line offers every desirable facility. It makes weekly trips between New York and Progreso, Tampico, and Vera Cruz, and touches every two weeks at Tuxpam and Campeche.

The remarkable growth of postal business led the government to reduce by one-half the rates on all inland correspondence from July, 1895; but even with that reduction the receipts

Telegraph Office in the Federal District.

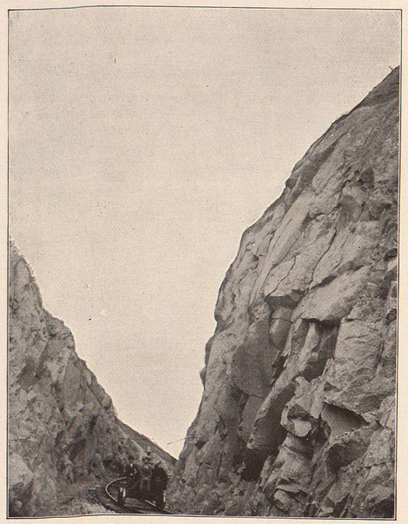
of the postal service of Mexico in 1895 show an increase of one hundred and twenty-seven thousand six hundred and forty dollars over any previous year.

One of the things which the prosperous administration of President Diaz can point out with pride is the wonderful development of the telegraph system of the republic and the excellent way in which it is managed. Morse's invention reaches every city, town, or place of any importance, and it is operated in an efficient, business-like manner. Few telegraphic services in the world are to-day more efficient and well managed in the interest of the public than Mexico's federal telegraph. Every office throughout the country runs like clock-work and on strict business principles.

For the following information on the Mexican telegraph system I am indebted to Mr. J. A. Soni, of that department in Mexico City.

"To the personal efforts of one of its learned citizens, Señor Don Juan de la Granja, belongs the honor of having imported into Mexico the electric telegraph. While serving his country as consul-general to the United States, Señor de la Granja witnessed with keen interest the rapid development of Professor Morse's wonderful invention, and he returned home to form a company to erect telegraph lines. The government subscribed liberally to the enterprise, and Señor de la Granja was soon in possession of the necessary capital to start his labors on a line from the city of Mexico toward Vera Cruz. On November 5, 1851, he reached the little village of Nopalucan, and the line to that place was inaugurated the same day amidst great festivities. Six months after, on May 19, 1852, the entire line to the port of Vera Cruz, four hundred and ninety kilometres in length, was opened to public services. The laying of telegraph lines to Toluca, Guanajuato, and San Luis Potosí soon followed, but always by private enterprise. So all the lines remained for years outside government control.

"But at the downfall of the Emperor Maximilian, in 1867, the owners of the Guanajuato and San Luis Potosí lines having taken part in the struggle against the republic, Juarez laid an embargo on their lines, and thus gave birth to the federal telegraph system, which then measured six hundred and seventy kilometres. The government proceeded then to develop the system, and gradually reached the principal cities.



Barranca near Tres Marias, on the Cuernavaca and Pacific Railroad.

"In 1876, when General Diaz was elected president, Mexico had seven thousand nine hundred and twenty-seven kilometres of federal and four thousand nine hundred and twenty-seven kilometres of private telegraph lines with one hundred and thirty-five offices in all. At present the federal government's system measures forty-five thousand kilometres in length and serves three hundred and forty-two offices; while there are numerous telephone lines, measuring thirteen thousand kilometres in length, and independent telegraph systems, in every state, belonging either to the local governments or to private parties. These local systems bind together one hundred and sixty-four different places and measure in all nineteen thousand five hundred and seventy-six kilometres. Besides these, there are the telegraph lines belonging to the railroad companies, ten thousand kilometres in length, and four hundred and twenty-two offices; making a grand total of seventy-four thousand five hundred and seventy-six kilometres of regular telegraph lines and nine hundred and twenty-eight offices.

"The federal lines extend their benefits to all state capitals, all commercial places, and all towns on the northern and southern frontiers, as well as to all ports on the Pacific and the Gulf of Mexico. As to the local systems, they reach every town in the states to which they

belong. In fact, it can be said that every place of any importance in Mexico can now be reached either by telegraph or telephone.

"For its international communications Mexico has four great submarine cables, two of them belonging to the Mexican Telegraph Company and the other two to the Central and South American Telegraph Company. The cables belonging to the Mexican Telegraph Company are

Buena Vista Station, Mexican Railroad.

laid in the Gulf of Mexico, one of them from Galveston, Texas, to Coatzacoalcos, and the other from Galveston to Tampico, Vera Cruz, and Coatzacoalcos; those belonging to the Central and South American Telegraph Company, from Salina Cruz on the Isthmus of Tehuantepec down to Valparaiso in Chile. Thus we may well consider Mexico as the bridge for telegraphic communications between Europe and the United States and all Central and South American countries on the Pacific Ocean."