

CHAPTER III

THE PANAMA RAILROAD

The great migration to the Pacific coast following the discovery of gold in "Forty-nine" acted as a strong incentive to the immediate establishment of an isthmian route by which the long and hazardous journey across the western territories of the United States might be avoided. In the last chapter a brief account was given of the enterprise conducted by the American Atlantic and Pacific Ship Canal Company, which, although it never effected its original purpose of opening a waterway, afforded valuable service to the gold-seekers in the early fifties by maintaining a transportation line across Nicaragua.

At the outset of the gold movement thousands made their way to California by way of the Isthmus of Panama. Steamships carried them from New York to the mouth of the Chagres. The journey thence to the Pacific coast, although no more than fifty miles by the trail, occupied from five to ten days and was accompanied by almost as much hardship and danger as in the days of Balboa. The emigrants were rowed or towed up the river by natives to a point near Cruces. The rest of the way to Panama was covered on foot or on mules. Women, when means would permit, were carried by *selleros*. These were native Indian porters, with a kind of chair strapped to their backs. There was, at that time, no regular steamship line between California and Panama. The travelers were often subjected to long and wearisome waits in the city. The old battery and the adjacent ramparts were favorite resorts of impatient watchers for a vessel from San Francisco, and their names and initials are cut in the stones by hundreds. On



EMPIRE-CHORRERA 16-FOOT MACADAM ROAD.

This road is being built with Zone convict labor and shows the excellent type of highways being constructed by the government.

more than one occasion epidemics made serious inroads among them. General Grant, in his memoirs, tells us that he was with the Seventh United States Infantry at Panama in 1852, en route to California, when cholera broke out. Fifteen per cent of the regiment succumbed to the disease and more than five hundred emigrants died of it. Cholera is not one of the prevalent diseases of the Isthmus. An influx of foreigners to Panama has always been accompanied by an outbreak of yellow fever, to which the natives are immune.

This transflux of travelers determined certain American capitalists to undertake the construction of a railroad across the Isthmus. A grant for the purpose had been made by the Government of New Granada to Mateo Kline on behalf of a French syndicate, in 1847, but it had expired by default in 1848. In the following year, William Henry Aspinwall, John Lloyd Stephens, Henry Chauncy, of New York, and their associates incorporated under the name of the Panama Railroad Company.

THE TERMS OF THE CONCESSION

Having declared all former similar concessions null and void, the Government of New Granada extended to this company the exclusive privilege of building a road and of operating it for a period of forty-nine years from the date of completion, which was to be not later than six years after the signing of the contract.

Subsequently this agreement was modified in important particulars, and in its present form entitles the company to "the use and possession of the railroad, the telegraph between Colon and Panama, the buildings, warehouses, and wharves belonging to the road, and in general all the dependencies and other works now in its possession necessary to the service and development of the enterprise for a period of ninety-nine years from the 16th day of August, 1867. At the expiration of this term the Government is to be sub-

stituted in all the rights of the company and is entitled to the immediate possession of the entire property. The Republic is bound to grant no privilege during this term to any other company or person to open any other railroad on the isthmus, nor without the consent of the company to open or work any maritime canal there to the west of a line drawn from Cape Tiburon, on the Atlantic, to Point Garchine, on the Pacific; nor to establish any such communication itself. But the company can not oppose the construction of a canal except directly along the route of its road, and the consent required is only to enable it to exact an equitable price for the privilege and as indemnification for the damages it may suffer by the competition of the canal. It is also stipulated that the company shall forfeit its privilege should it cede or transfer its rights to any foreign government."

THE GREAT DIFFICULTIES OF THE UNDERTAKING

When the Republic of Colombia superseded the Government of New Granada (1867), new requirements were imposed upon the railroad company. It was compelled to pay to Colombia a quarter of a million dollars annually and to "transport free of charge the troops, chiefs, and officers, and their equipage, ammunition, armament, clothing, and all similar effects that may belong to, are or may be destined for the immediate service of the Government of the Republic or the State of Panama, as also their officials in service or in commission, and those individuals who, with their families and baggage, may come to the country in the character of emigrants, and of new settlers with the permanent character of such, for account of the Government up to the number of 2,000 annually." This agreement was worked by the Colombian Government to the utmost, and the tremendous amount of "deadheading" with which the company was forced to put up cut into its profits seriously. Some idea of the extent to which this abuse was carried

may be inferred from the fact that during the year 1903 the company carried 4,663 first-class passengers who paid their fares and 11,098 passengers and 6,601 troops free. In addition a considerable amount of freight was transported gratis under the agreement.

The Panama Railroad Company, with characteristic American energy, attacked the difficult undertaking without delay. The engineering staff was on the ground in the autumn of 1849. "Their quarters were on board a sailing ship. They worked by day, waist deep in mud and slime, making surveys and cutting a trail, and slept at night on their floating home. Nothing but the indomitable will and push for which Americans are justly praised could have overcome the terrible difficulties that met them at every step. The country was a howling wilderness, pestilential and death-dealing; the forests teemed with poisonous snakes and other equally unpleasant inhabitants; night was made hideous by the large, broad-chested, active mosquitoes of that part of the coast, who bite through clothing most successfully; the country produced absolutely nothing, and every mouthful of food had to come from New York. Despite these obstacles, that brave little band worked ahead, and kept on with their surveys. At the very outset they encountered the difficulty of finding a suitable location for the line traversing the quicksands and swamps between Colon of to-day and Gatun. It is reported that in some of the swamps the engineers under the late Colonel George M. Totten, and Mr. Trautwine, failed to find bottom at 180 feet. An embankment was created for the road by throwing in hundreds of cords of wood, rock, and more wood. This causeway, as it may be called, cost a fabulous sum of money; but at last it was completed and they floated their tracks, so to speak, over the swamps."*

Despite its ample resources and the unflagging application of its representatives in the field, the company at the end of two years had completed only about one-half of the

* Five Years in Panama. Wolfred Nelson, M.D., New York, 1889.

permanent way, or, to be more exact, the twenty-three miles between Colon and Barbacoas. The transportation of passengers and baggage across the Isthmus was, however, in operation. The railway line was used as far as it was completed; canoes were employed upon the Chagres to Gorgona or Cruces; and the remainder of the journey was performed by road.

SOME FEATURES OF THE CONSTRUCTION

At Paraiso, thirty-eight miles from the Atlantic, the line attained its greatest elevation, being 263 feet above the mean level of the ocean. Upon the western side of the divide the maximum grade was one in ninety; upon the Pacific slope it was a little more. Twenty-three miles of the road were level and twenty-five straight, but there were sharp curves in places. There were no fewer than one hundred and thirty-four culverts, drains, and bridges of ten feet and less, and as many as one hundred and seventy bridges from a twelve-foot span to the length of the Barbacoas. The line was still a single one with sidings when it was taken over by the Canal Commission in connection with the construction work on the canal. The railroad was paralleled by a telegraph line. Of this, Pim, in his "Gateway to the Pacific," says: "There are twenty-six posts to the mile, constructed in the following manner: A scantling four inches square, of pitch-pine, is encased in cement, molded in a cylindrical form, tapering toward the top, and sunk four feet in the ground. I was assured that when once dry these posts would last for ages. The cost of each was five dollars. They have the appearance of hewn stone and are quite an ornament along the line."

At the close of the year 1854 the construction had arrived at the divide. The Culebra pass afforded the greatest depression but it was practically two hundred and forty feet above sea level. The rails were carried over at this point and down the Pacific slope to Panama. On the 27th

day of January, 1855, Colonel Totten went over the line upon the first locomotive to cross the American continent from ocean to ocean.

The utmost credit is due to the promoters of this great enterprise and to those who executed it. Aside from the important services the road has rendered to commerce during the past fifty years, its efficacy as a pioneer movement has been inestimable. The railroad opened the way over the Isthmus, stimulated the desire for a canal, and afforded indispensable facilities for its consummation.

The cost of the road was considerably in excess of the original estimate. After its opening to through traffic, many improvements were carried out, including the expensive bridge at Barbacoas, and it is probable that the outlay in establishing the route exceeded eight million dollars.

From Colon the road ran almost due south by west for more than seven miles until it met the Chagres at Gatun. Its general direction thereafter was south-easterly, along the valley of the river as far as San Pablo, the half-way point between the oceans.

THE FINE BRIDGE ACROSS THE CHAGRES

Here the Chagres was spanned by the splendid Barbacoas, which word itself, in the native language, signifies a bridge. It was built of iron over six hundred feet long, resting upon stone piers. It cost upwards of half a million dollars. During the dry season the river dwindles to a shallow, almost sluggish, stream, perhaps less than two hundred feet in width, but in the rains it becomes a torrent, sometimes far exceeding its normal bounds. Thus in 1878 the Chagres flooded its valley and rose to a height of fifteen feet over the railway. The earthquake of 1882 threw the bridge slightly out of alignment but apparently without seriously damaging it.

From San Pablo the road hugged the left bank of the river to Obispo, where it turned off suddenly at right angles

to the stream. In the vicinity of Obispo is Cerro Gigante, the hill from whose summit Balboa is said to have gained his first view of the Pacific. There is no historic evidence on this point, and it seems more probable that if the exact spot could be ascertained it would be on one or the other of the heights that flank the Culebra pass. At Paraiso, on the Pacific slope, the company's engineers had an experience that is inseparable from excavation works in this part of the world. A cut had been made forty feet in depth and the rails laid along its bottom, when the torrential rain swept the earth back and covered the track at a depth of twenty feet. A similar occurrence befell the Panama Canal Company more than once, affording a warning to the American engineers which they have carefully heeded.

EXTRAORDINARY LABOR DIFFICULTIES

Reference has been made to some of the difficulties which were encountered in what Tomes ("Panama in 1885") characterizes as the "almost superhuman" task of building the railroad across the Isthmus of Panama. Not the least of these were involved in the efforts to secure an adequate supply of labor. It was soon found that the natives could not be counted upon to any extent. The company concluded to import Chinamen and a ship landed eight hundred of them at Panama. They immediately began to fall sick and in a week's time upward of a hundred were prostrated. The interpreters attributed this to the deprivation of their accustomed opium. A quantity of the drug was distributed to them and had a marked effect for the better, but, to quote Tomes, "a Maine opium law was soon promulgated on the score of the immorality of administering to so pernicious a habit, and without regard, it is hoped, to the expense, which, however, was no inconsiderable item, since the daily quota of each Chinese amounted to fifteen grains, at a cost of at least fifteen cents." Deprived of what from long habit had become a necessary stimulant and subjected

to the depressing effect of the unaccustomed climate, the coolies lost all vigor and courage. In less than two months after their arrival there was hardly one of the original number fit to wield a pick or shovel. They gave themselves up to despair and sought death by whatever means came nearest to hand. Some sat on the shore and stoically awaited the rising tide, nor did they stir until the sea swallowed them. Some hanged themselves by their queues or used those appendages to strangle themselves. By various methods hundreds put an end to the misery of their existence. The remnant, fewer than two hundred, sick and useless, were shipped to Jamaica.

The next experiment of the railroad company was hardly less disastrous. A number of Irish laborers were imported at considerable expense, but, although the mortality amongst them was not so great as that experienced from the Chinese, it is said that the company failed to secure a single good day's labor from one of them. A great number were buried on the Isthmus and the remainder were sent to New York, where most of them died from the effects of the fever contracted in the south.*

The road was finally completed with the labor of some three thousand men of mixed races, but chiefly negroes from Jamaica and East Indian coolies. |

THE CANAL COMPANY SECURES THE RAILROAD

The Panama Canal Company learned at an early stage in its operations that control of the railroad was essential to the success of its project. In the fall of 1879 the stock was offered to de Lesseps for \$14,000,000, being at the rate of \$200 each for 70,000 shares. This would appear to have been a very fair price when the worth of the line to the canal

* It should be stated that the late Colonel George M. Totten, chief engineer of the road, threw discredit upon these statements of excessive mortality which, however, have emanated from several apparently reliable authorities. Colonel Totten repeatedly stated that the number of men employed in the construction of the railroad at no time exceeded 7,000 and that the total deaths among the laborers during the five years of the operation were not in excess of 1,200. If we assume an average of 5,000 laborers per annum, probably an underestimate, we have a mortality of 48 per thousand, an incredibly low figure, when the conditions under which the road was built and the later experiences of the French are considered.

company is considered and the fact that its extremely profitable business, which had returned profits ranging from twelve to twenty-two per cent per annum, was in prospect of practical annihilation on the completion of the waterway. De Lesseps, however, perhaps hoping to secure better terms, declined the proposition. The construction of the canal was commenced early in the following year but the operations were obstructed at every step by the railroad company, which instituted a systematic scheme of delay in the delivery of goods to the canal company. At length it was forced upon de Lesseps that the American corporation commanded the situation, and he decided to buy the company's shares. But in the meanwhile they had been steadily advancing, and when the transfer was effected the price had risen to \$250 a share. Six-sevenths of the entire stock was sold to the Panama Canal Company,* the remainder being retained in American hands for the purpose of keeping the charter alive.

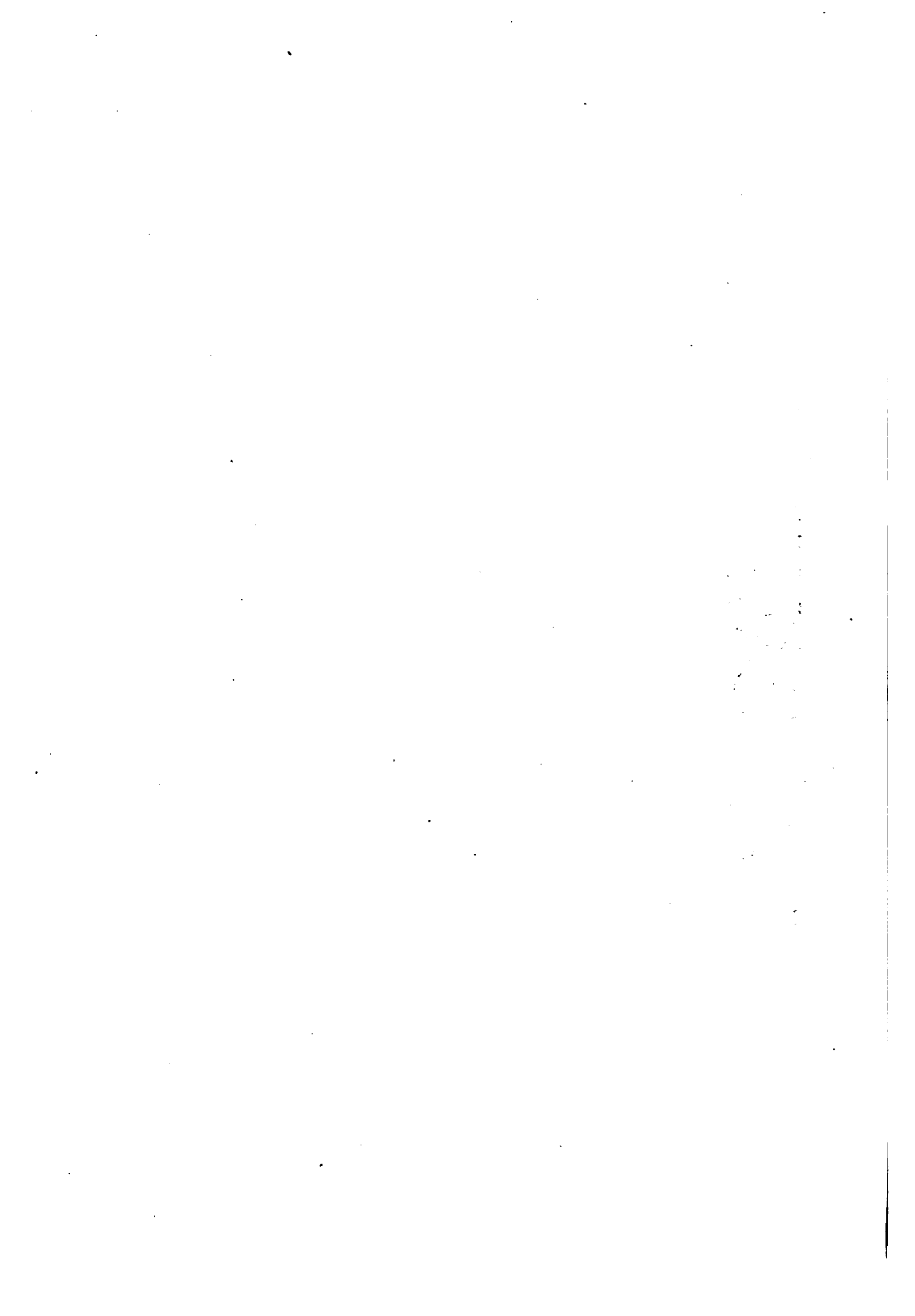
With the opening of the railroad a large traffic across the Isthmus sprang into existence and grew rapidly with the advance of time. The products of Asia and the countries upon the Pacific coast of America were carried from Panama to Colon, there to be distributed amongst steamships making the ports of Europe, Canada, the United States and the West Indies. Moving in the reverse direction, goods from these countries reached, by the same transisthmian route, South and Central America and San Francisco. From the last named port reshipment was made to the Pacific islands and points on the Asian mainland. A number of steamship lines made regular calls at the terminal ports of the railroad. The line occupied a commanding position as the essential link in this chain of traffic, and took full advantage of the fact. Its charges were exorbitant and its profits enormous for many years. Its rates were based on, in general, fifty per cent of the through tariff. For instance, of

* The company has been generally known in America by this name, but its corporate title was "La Compagnie Universelle du Canal Interocéanique de Panama."



COLUMBUS AND THE INDIAN MAIDEN.

This beautiful bronze statue of the Great Discoverer overlooks the Atlantic entrance to the Canal, beholding at last the "New Route to India."



the total cost of shipping goods from New York to Valparaiso, one half represented the charge of the railroad company for its share of the carriage. In some instances this policy of mulcting the shipper excessively resulted in loss of business. For many years the road carried enormous quantities of coffee to Europe. The through rate was about thirty dollars per ton. The railroad company received fifteen dollars and the two steamship companies that handled the goods divided a similar sum. In the early eighties a German line commenced to run to South and Central American ports by way of the Straits of Magellan. In a very short while this line had secured all the coffee shipments and much other freight that had previously been sent across the Isthmus.

However, the railroad company was not seriously affected by these diversions, and in the course of time it entered into an agreement with the Pacific Steamship Company which created a condition in the nature of a monopoly, to which reference will be had again.

THE LONG CALMS ON THE PACIFIC COAST

Tramp steamers often make the ports on either side of the Isthmus, and many sailing vessels put in at Colon. The latter are less frequent visitors at Panama on account of the calm that prevails on that coast. Such craft have been known to leave the latter port and return for fresh supplies after lying in the doldrums for weeks without being able to get away. There was the case of the British bark *Straun*, which cleared from Panama in May of the year 1884. After getting out of the Gulf she beat about between latitudes four and six for months and finally put back to port after being out one hundred and five days.

THE ASSETS OF THE RAILROAD AND THEIR VALUE

When the United States Government purchased the property of the Panama Canal Company it acquired 68,887

of the 70,000 shares of the railroad company and afterward bought up the remainder.

The property of the railroad company transferred to the United States Government consisted of about forty eight miles of single track with twenty-six miles of sidings; thirty-five locomotives, thirty passenger cars, more than nine hundred freight cars and a quantity of miscellaneous rolling stock. The equipment, like everything else that came from the hands of the French company, was in a condition of unnecessary deterioration. The railroad company owned repair shops, wharves and buildings at both Panama and Colon, and almost the entire island of Manzanillo, upon which the latter city stands, was its property. It held large parcels of real estate along the line, aside from the land actually occupied by the road, and had with the Pacific Mail Steamship Company, an undivided half interest in the islands of Naos, Culebra, Perico, and Flamenco, all in Panama Bay. It was also the proprietor of three steamships having an average tonnage of about twenty-seven thousand. The entire property, "cost of road, real estate, and equipment," including the steamships, tugs, lighters, etc., was carried on the books at what would seem to be the conservative valuation of a little over twelve millions and a half.

As soon as the Government assumed charge of the railroad, complaints of the traffic monopoly were made by shippers who had been without means of redress under the old conditions. The justice of these complaints was fully recognized by the authorities. General Davis, the first governor of the Canal Zone, severely criticised the management of the road, and Secretary Taft, in the report to which reference has already been made, says: ". . . . Whatever may have justified the rates charged by the railroad company, the salaries paid by it, and the character of its corporate organization, and the expenses of the office in New York, certainly for the purposes and under the control of the United States, radical changes must be made."

A contract existed between the railroad company and the Pacific Mail Steamship Company, which secured to the latter concern the exclusive privilege of issuing through bills of lading on freight from San Francisco to New York. Mr. Taft expressed the opinion that this contract was "invalid under the laws of Colombia and the laws of Panama." The Panama Railroad Company ran three cargo steamers on the Atlantic side between New York and Colon, and would recognize no through bills of lading except those issued from its office in New York. Goods shipped across the Isthmus by any other line were charged the heavy local freight rates in force between Panama and Colon. This arrangement, together with its control of the docking facilities at Colon, most effectually enabled the company to shut out any competition in the Atlantic carrying trade.

SUGGESTED RAILROAD AND STEAMSHIP TRAFFIC REFORMS

Early in 1905, Joseph W. Bristow was commissioned to investigate the situation under consideration. After an examination extending over several months he substantiated the foregoing facts and made the following recommendations: That the road should be continued as a commercial line; that it should be double-tracked, equipped with modern rolling stock, and supplied with additional wharves and other improvements; that the rates for through freight should be made as low as the cost of the service and provision for a fair dividend will permit; that the steamship line maintained by the road between Colon and New York should be continued by the Government; that the exclusive contracts with the Pacific Mail Steamship Company and the two South American west coast lines should be cancelled, "and the ports of Colon and Panama be opened to the use of all steamship lines on equal terms;" that in case a new steamship line be not established within reasonable time by private capital between Colon and the Gulf ports, the railroad company should establish and maintain such

a line (it is cheaper and more convenient to move the products of the Mississippi Valley by way of these ports than through New York); that in the event of the Pacific Mail Steamship Company discontinuing its service between San Francisco and Panama some other private corporation should be encouraged to take its place, but failing this, the Panama Railroad Company should run a line of steamers over the route.

It will be seen that the report contemplated a considerable extension of the Government's commercial operations, but only as alternative measures to be resorted to in case the desired objects could not be attained through private enterprise. Mr. Bristow recommended favoring American ships in traffic relations as far as might be consistent with treaty obligations, but, upon the theory that the railroad was performing the functions of a canal, he did not deem it practicable to discriminate to the advantage of American bottoms at the ports of Panama and Colon.

The report met with the approval of the Government, and steps were taken to carry out its general recommendations.

THE RELOCATED PANAMA RAILROAD

A first necessity was to relay the line so that its tracks would at all times be above the level of Gatun Lake after the opening of the canal; a task nearly as costly as building the entire road anew.

The new, or relocated line of the Panama Railroad, is 47.11 miles long, or 739 feet longer than the old line. From Colon to Mindi, 4.17 miles, and from Corozal to Panama, 2.83 miles, the old line is used but the remaining 40 miles are new road. From Mindi to Gatun the railroad runs, in general, parallel to the Canal, and ascends from a few feet above tide water elevation to 95 feet above. At Gatun the road leaves the vicinity of the Canal and turns east along Gatun Ridge to a point about $4\frac{1}{2}$ miles from the center line of the Canal, where it turns southward again and

crosses the low Gatun Valley to Monte Lirio, from which point it skirts the east shore of Gatun Lake to the beginning of the Culebra Cut at Bas Obispo. In the Gatun Valley section there are several immense embankments, necessary to place the line above the lake level, which in the 3-mile section, aggregate about 5,000,000 cubic yards. Likewise, near the north end of Culebra Cut, where the line is located so as to furnish waste dumps for spoil from the Canal, there are several very heavy embankments. Originally it was intended to carry the railroad through Culebra Cut on a 40-foot berm along the east side, 10 feet above the water level, but the numerous slides have made this plan impracticable, and a line is now constructed, on a high level around the Cut, known locally as the Gold Hill Line. Leaving the berm of the Canal at Bas Obispo, the Gold Hill Line cuts through a ridge of solid rock, and gradually works into the foot hills, reaching a distance from the center line of the Canal of 2 miles opposite Culebra; thence it runs down the Pedro Miguel Valley to Paraiso, where it is only 800 feet from the center line of the Canal. This section of the line is located on a maximum grade of $1\frac{1}{4}$ per cent, compensated, and has a total length of $9\frac{3}{8}$ miles. The sharpest curve on the whole line is 7° . From the south end of Culebra Cut at Paraiso, the railroad runs practically parallel with the Canal to Panama, with maximum grade of 0.45 per cent. Where the railroad crosses the Gatun River, near Monte Lirio, a steel girder bridge has been erected, the center span of which will be made into a lift span where the Gatun Lake is formed, to permit access to the upper arm of the lake. The Chagres River at Gamboa is crossed on a steel girder bridge, $\frac{1}{4}$ -mile long, with one 200-foot through truss channel span. Numerous other rivers and small streams are crossed on reinforced concrete culverts. Near Miraflores, a tunnel 736 feet long has been built through a hill. The total cost of the new line has been \$8,866,392.02.

At present the Panama Railroad is relatively the busiest

line in the world. During 1910 the freight movement over its fifty miles of roadbed approximated 300,000,000 tons. Whilst the commercial traffic is considerable, it accounts for but a fractional part of the whole. The great bulk of the material carried consists of spoil from the works, and supplies for the Commission. The engineering department of the Canal operates about 300 miles of construction trackage and the Panama Railroad acts as a clearing house for its traffic. It receives the dirt trains loaded and returns them empty. From 700 to 800 dirt trains a day are handled, each composed of a locomotive and 18 flat cars, the full load being 500 tons.

The passenger traffic on this little railroad is also extraordinarily great. All day long employees are journeying between the many towns that are strung along the line. During the year about 1,500,000 passengers are carried. In the mornings and evenings closely packed laborers' trains of a special type are run.

It is hardly necessary to state that as an adjunct to the canal construction the railroad is of the highest importance—indeed, it is a *sine qua non*. With the completion of the waterway, the road will lapse into the condition of a mere local line between Colon and Panama. It should, nevertheless, continue to be a valuable property in the hands of either the Government or a private corporation. As a means of transporting men and material employed in the operation of the completed canal it will always be of service. It is probable that a considerable amount of freight will be reshipped even after the canal is opened. Many voyagers will leave vessels at the point of entering the canal in order to avoid what will generally be an unpleasant passage and secure the opportunity of spending a few hours in Panama by making the transit by rail. Both the terminal ports, but especially Panama, must grow rapidly under the influences of future traffic and the local business of the railroad will be proportionately increased.

CHAPTER IV

THE ISTHMIAN COUNTRY

During recent years the ribbon of land that joins the continents of North and South America has loomed large in the public eye.

Since the days of Greece's glory no such small strip of soil as the Isthmus of Panama has gained equal distinction. It has been the scene of stirring adventure and the site of the wealthiest city in the world. It has been the subject of epoch-making diplomacy and a sphere for political disturbances. It is the seat of the greatest engineering enterprise in history; an enterprise which is destined to largely revolutionize the commerce of the earth and, more than any other modern factor, to influence the fortunes of nations.

In the second decade of the sixteenth century Angel Saavedra mooted the idea of a canal through this narrow neck of inter-ocean territory. Since that time the thought could not be banished from the minds of men though a King of Spain decreed death to any who should voice it. For two hundred years and more plans and projects for the great waterway have been advanced. The first attempt to construct it ended in a cataclysmal failure. In these early years of the twentieth century the opening of a passage is at length assured, and it will be available to the traffic of the world almost, perhaps exactly, four hundred years from the discovery of the Pacific.

THE ISTHMUS OF PANAMA

The neck of land separating the two great oceans of the globe, which is called the Isthmus of Panama, forms the

southern termination of the great American isthmus extending north to Mexico. This strip of land curving about four hundred and seventy miles from west to east has commonly been styled the Isthmus of Darien, but that name is more properly applied to the section of country between the Gulfs of Uraba and San Miguel. The Isthmus of Panama is traversed along its entire length by the Cordillera de Baudo, separated from the Andes by the Valley of the Atrato which marks the northern limit of South America. Erroneous impressions are apt to be created by the usual practice of studying geography with the aid of the ordinary flat maps, which have the effect of exaggerating the size of countries in high latitudes and diminishing the equatorial areas. One thousand miles in latitude 60 degrees occupies upon the ordinary map twice as much space as does one thousand miles along the equator. It is a revelation to many a well-informed person to learn that South America is very nearly as large as North America. For the study of the Panama Canal in its relations to the rest of the world the use of a globe, or a map on the polyconic projection is recommended. Another point worth noticing in this connection is that the most pronounced diversion from the general north and south trend of the Americas is found in the Isthmus of Panama, which takes a lateral direction east and west and throws the southern continent, so to speak, to the east of the northern, so that a line dropped due south from New York would pass through the Pacific Ocean off the coast of Chile.

In looking at a map of the western hemisphere we are accustomed to finding the Atlantic Ocean to the east or on the right hand. For this reason a sectional map of the Canal region is likely to be a little confusing at first glance. It will show the Pacific on the right and the Atlantic on the opposite side of the page. This is due to the fact that the Isthmus makes a northerly loop in the portion containing the Canal Zone, and Panama is actually east of Colon, from which port the Canal will take a south-easterly direction to its Pacific terminus. A line from Buffalo continued south





THE CHURCH OF SAN FRANCISCO, PANAMA.

An excellent example of Spanish architecture.

would bisect the Canal and leave Panama on the right and Colon on the left.

The writer finds an excuse for these explanations in the knowledge that many intelligent persons have been puzzled by the unfamiliar geographical conditions involved.

POLITICAL CHANGES IN PANAMA AND COLOMBIA

Having secured their independence from Spain, the provinces of Venezuela, Ecuador, Colombia, and Panama formed a republican federation. Subsequently, the two first-named seceded, and Panama with Colombia established the United Sovereign States of New Granada. Although each of the states combined in this political union exercised sovereign powers, the paramount authority in the territory became gradually centralized at Bogota. In 1861, against the wishes of the leading citizens of Panama, the United States of Colombia were organized with a new constitution conferring greater powers on the government at Bogota. Twenty-five years later, after a civil war in which many lives were lost, Colombia succeeded in establishing the republic which took her name. By this measure Panama lapsed to the condition of a mere department with a governor appointed by the Colombian president and vested with little independent authority. The Panamans, whilst forced to submit to this degradation, have always protested against it and have consistently declared their right to the position of a constitutional state. The government of Panama by the corrupt Colombian politicians had always been bad, and the people of the Isthmus had entertained the design of independence for years before America opened negotiations for the Canal and, indeed, had enjoyed it for three years following 1857.

THE REVOLUTION OF PANAMA

Panama threw off the yoke of Colombia at an extremely opportune time as regards the plans of the United States

for the construction of the Isthmian Canal. The coincidence of the event was the only basis for the utter nonsense written in this country upon the subject at the time. While the opportunity was seized most promptly by our executive officials, doubtless saving the delays of lengthy and expensive negotiations, there is absolutely no ground for the accusation that the American authorities instigated the *coup* which gave independence to the Isthmus, but, on the contrary, sufficient evidence that, although they may have had some inkling of the attempt before its occurrence, they were entirely free from participation in it. The suspected representatives of our Government have denied that any American official instigated or assisted in the revolt. In this they are borne out by the statements of the leading Panaman revolutionists and by Doctor Herran, the Colombian Minister to Washington at the time.

The Hay-Herran Treaty was negotiated at Washington in 1903 between the representatives of the Governments of the United States and the Republic of Colombia. Its purpose was to secure to the former state the privilege of making a canal through the Isthmus of Panama. Colombia was to authorize the French company to sell out to the United States and to give a strip of land thirty miles wide for a Canal Zone over which Colombia should retain sovereignty but the United States have police control. The United States was to pay ten millions of dollars at once and one hundred thousand yearly after the ninth year. The national legislature of the latter country, moved it is believed by the hope of inducing us to pay a higher price, failed to ratify the treaty.

A COMIC OPERA COUP D'ÉTAT

The Panamans are much more astute than is generally supposed. They had realized fully the enormous advantages that would accrue to their country from the operation of the Canal by America, and when the opportunity seemed to be in danger of destruction by the action of the

Colombian politicians, the leading men in Panama who, as has been said, have harbored thoughts of independence for years, determined to take matters into their own hands. No doubt they calculated, as they reasonably might, upon the United States acknowledging them as soon as they had knocked off their shackles. The revolution was bloodless and savored of *opera bouffe* in the absurdity of its details. The Government of Bogota learned of the plot before it was put into execution and despatched several hundreds of the ragamuffins that composed its "army" to Panama under Generals Tobal and Amaya, with orders to arrest the conspirators and carry them to the capital. When the detachment arrived at Colon the generals hurried forward over the railroad with their warrants and were promptly placed in confinement by the revolutionary leaders.

Meanwhile, Colonel Shaler, the Superintendent of the Panama Railroad, unquestionably placed impediments in the way of the further progress of the troops. It must be remembered, however, that Colonel Shaler, although an American, was not an official and acted as the representative of the corporation which was interested in the sale of the canal property to the United States, for the Panama Canal Company owned the railway.

The sympathy of the American Government and people was unquestionably with the Panamans, but they received no official aid from this country.

Marines were landed from an American gunboat and two days later the Colombian troops took ship for Cartagena. Panama immediately declared itself an independent republic and was recognized by the United States without delay.

THE AMERICAN PART IN THE AFFAIR

There is reason to believe that the Colombian soldiers were bribed—at the rate of about five dollars apiece—by friends of Panama, but the statement that the money was distributed or handled by an officer of the American Navy

is a gross and stupid libel. The presence of the marines was without a doubt a decisive factor in the accomplishment of the revolution, but that it was not premeditated and had no other purpose than the protection of American lives is proved by the following official report of the officer commanding the *Nashville*:

“U. S. S. *Nashville*, Third Rate.

“Colon, U. S. Colombia, November 5, 1903.

“Sir: Pending a complete report of the occurrences of the last three days in Colon, Colombia, I most respectfully invite the Department’s attention to those of the date of Wednesday, November 4, which amounted to practically the making of war against the United States by the officer in command of the Colombian troops in Colon. At 1 o’clock p. m. on that date I was summoned on shore by a preconcerted signal, and on landing met the United States consul, vice-consul, and Colonel Shaler, the general superintendent of the Panama Railroad.

“The consul informed me that he had received notice from the officer commanding the Colombian troops, Colonel Torres, through the prefect of Colon, to the effect that if the Colombian officers, Generals Tobal and Amaya, who had been seized in Panama on the evening of November 3, by the independents, and held as prisoners, were not released by 2 o’clock p. m., he, Torres, would open fire on the town of Colon and kill every United States citizen in the place, and my advice and action were requested. I advised that all the United States citizens should take refuge in the shed of the Panama Railroad Company, a stone building susceptible of being put into good state of defense, and that I would immediately land such body of men, with extra arms for arming the citizens, as the complement of the ship would permit.

UNITED STATES MARINES ARE LANDED

“This was agreed to, and I immediately returned on board, arriving at 1.15 p. m. The order for landing was

immediately given, and at 1.30 P. M. the boats left the ship with a party of forty-two men under the command of Lieutenant-Commander H. M. Witzel, with Midshipman J. P. Jackson as second in command. Time being pressing, I gave verbal orders to Mr. Witzel to take the building referred to above, to put it into the best state of defense possible, and protect the lives of the citizens assembled there—not firing unless fired upon. The women and children took refuge on the German steamer *Marcomania* and the Panama Railroad steamer *City of Washington*, both ready to haul out from dock if necessary.

“The *Nashville* got under way and patrolled along the water-front close in and ready to use either small arm or shrapnel fire. The Colombians surrounded the building of the railroad company almost immediately after we had taken possession, and for about one and a half hours their attitude was most threatening, it being seemingly their purpose to provoke an attack. Happily our men were cool and steady, and while the tension was very great no shot was fired.

“At about 3.15 P. M. Colonel Torres came into the building for an interview and expressed himself as most friendly to the Americans, claiming that the whole affair was a misapprehension, and that he would like to send the *alcalde* of Colon to Panama to see General Tobal and have him direct the discontinuance of the show of force. A special train was furnished and safe conduct guaranteed. At about 5.30 P. M. Colonel Torres made the proposition of withdrawing his troops to Monkey Hill if I would withdraw the *Nashville's* force and leave the town in possession of the police until the return of the *alcalde* on the morning of the 5th.

THE NERVE OF AMERICAN MARINES PREVENTS A CONFLICT WITH COLOMBIA

“After an interview with the United States consul and Colonel Shaler as to the probability of good faith in the

matter, I decided to accept the proposition and brought my men on board, the disparity in numbers between my force and that of the Colombians—nearly ten to one—making me desirous of avoiding a conflict so long as the object in view—the protection of American citizens—was not imperiled.

“I am positive that the determined attitude of our men, their coolness and evident intention of standing their ground, had a most salutary and decisive effect on the immediate situation, and was the initial step in the ultimate abandoning of Colon by these troops and their return to Cartagena the following day. Lieutenant-Commander Witzel is entitled to much praise for his admirable work in command on the spot.

“I feel that I can not sufficiently represent to the Department the grossness of this outrage and the insult to our dignity, even apart from the savagery of the threat.

“Very respectfully,

“JOHN HUBBARD,

“Commander, United States Navy, Commanding.

“The Secretary of the Navy,
Navy Department, Washington, D. C.”

In his more detailed report Commander Hubbard stated: “I beg to assure the Department that I had no part whatever in the negotiations that were carried on between Colonel Torres and the representatives of the provisional government; that I landed an armed force only when the lives of American citizens were threatened, and withdrew this force as soon as there seemed to be no grounds for further apprehension of injury to American lives or property; that I relanded an armed force because of the failure of Colonel Torres to carry out his agreement to withdraw and announced intention of returning; and that my attitude throughout was strictly neutral as between the two parties, my only purpose being to protect the lives and property of American citizens and to preserve the free and uninterrupted transit of the isthmus.”

THE PRESIDENT'S DENIAL OF OFFICIAL COMPLICITY

President Roosevelt, referring to the foregoing reports, says: "This plain official account of the occurrences of November 4 shows that instead of there having been too much prevision by the American Government for the maintenance of order and the protection of life and property on the isthmus, the orders for the movement of the American warships had been too long delayed: so long, in fact, that there were but forty-two marines and sailors available to land and protect the lives of American men and women. . . . At Panama, when the revolution broke out, there was no American man-of-war and no American troops or sailors. At Colon Commander Hubbard acted with entire impartiality toward both sides, preventing any movement, whether by the Colombians or the Panamanians, which would tend to produce bloodshed. On November 9 he prevented a body of the revolutionists from landing at Colon."

In his message to Congress the President made the following reference to the treaty and the complications which grew out of it: "During all the years of negotiation and discussion that preceded the conclusion of the Hay-Herran treaty, Colombia never intimated that the requirement by the United States of control over the canal strip would render unattainable the construction of a canal by way of the Isthmus of Panama; nor were we advised, during the months when legislation of 1902 was pending before the Congress, that the terms which it embodied would render negotiations with Colombia impracticable. It is plain that no nation could construct and guarantee the neutrality of the canal with a less degree of control than was stipulated for in the Hay-Herran treaty. A refusal to grant such degree of control was necessarily a refusal to make any practicable treaty at all. Such refusal therefore squarely raised the question whether Colombia was entitled to bar the transit of the world's traffic across the isthmus. . . . Colombia, after having rejected the treaty in spite of our protests and warnings when it was in her power to accept it, has

since shown the utmost eagerness to accept the same treaty if only the *status quo* could be restored. One of the men standing highest in the official circles of Colombia on November 6 addressed the American minister at Bogota, saying that if the Government of the United States would land troops to preserve Colombian sovereignty and the transit, the Colombian Government would 'declare martial law, and, by virtue of vested constitutional authority, when public order is disturbed, (would) approve by decree the ratification of the canal treaty as signed; or, if the Government of the United States prefers, (would) call an extra session of the Congress—with new and friendly members—next May to approve the treaty.'

"Having these facts in view, there is no shadow of a question that the Government of the United States proposed a treaty that was not only just, but generous to Colombia, which our people regarded as erring, if at all, on the side of overgenerosity, which was hailed with delight by the people of the immediate locality through which the canal was to pass, who were most concerned as to the new order of things, and which the Colombian authorities now recognize as being so good that they are willing to promise its unconditional ratification if only we will desert those who have shown themselves our friends and restore to those who have shown themselves unfriendly the power to undo what they did. I pass by the question as to what assurance we have that they would now keep their pledge and not again refuse to ratify the treaty if they had the power; for, of course, I will not for one moment discuss the possibility of the United States committing an act of such baseness as to abandon the new Republic of Panama."

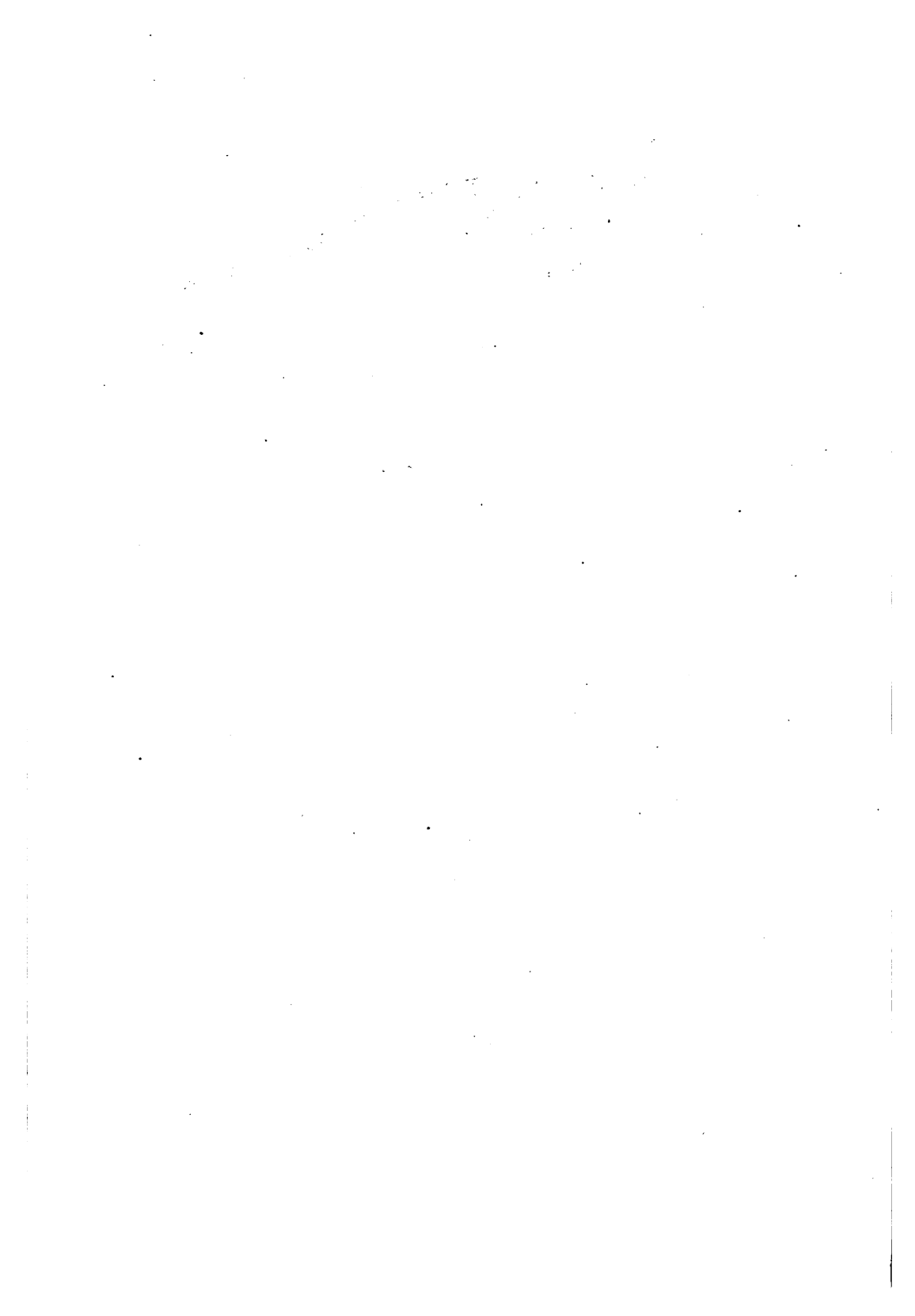
DESCRIPTION OF THE ISTHMUS OF PANAMA

The recognition of the independence of Panama by the United States was followed by a treaty between the two countries which will be referred to in a succeeding chapter.



STEAM SHOVEL LOADING ROCK.

These great machines which are able to dig out and load several tons of material at each operation have made the rapid progress in digging the Canal possible.



The physical features of the Isthmus of Panama are very diversified. The center of the country is occupied by mountains and hills. In some parts these elevations extend to the coast, but usually they are flanked by alluvial plains or gently rolling country. This again is fringed by a strip of costal swamp covered with mangroves. Heavy forest and dense jungle clothe the mountain districts. The growth is so strong and rapid that the railroad company has to maintain a constant fight against its inroads. If not checked it would in six months bury the line. The Chagres is the principal river in every respect, but there are a number of smaller streams.

The territory of the Republic of Panama is divided into provinces and these into municipal districts. The canal route traverses two of these provinces—those of Colon and Panama. Their prosperity is assured by the American enterprise now in process of development.

THE INHOSPITABLE SAN BLAS COUNTRY

The province of Darien is not a promising region. It is largely made up of mountainous wilderness and impassable swamps. Rumor has persistently credited the San Blas district with rich gold deposits, but verification is rendered difficult by the unfriendly attitude of the Indians there, who have always displayed an unconquerable objection to the presence of white men. The San Blas Indians occasionally visit Panama on trading or marketing excursions, but they are reticent about their country and their affairs and decidedly averse to any but the most temporary relations with foreigners. The provinces of Chiriqui and Veragua support industries of considerable importance and appear to be capable of much greater development under favorable conditions. David, the capital of Chiriqui, occupies an extremely picturesque site upon a well-wooded coast. Behind the town stretches a fertile savanna backed by a range of mountains from two to three thousand feet in

height. It is one of those quaint old settlements with which the traveler in Spanish-America becomes familiar, but he never tires of the air of restful simplicity that pervades them. The houses, generally one story in height, are square whitewashed structures with roofs of red tile and front verandas. The inhabitants are hospitable, contented and inclined to take life easily. Several of them are well-to-do and not a few highly cultured.

THE ANCIENT GRAVES OF CHIRIQUI

Chiriqui became suddenly famous several years ago on account of the interesting relics that were unearthed there from the *guacas*, or graves, of the ancient inhabitants. A great number of these treasures were found in the district of David. "History is silent about the people who are buried in thousands there. The discovery of these old cemeteries came about in this wise: Many, many years ago in cutting a trench through a peaceful forest to drain off water, the Indian diggers came across an image of gold. Great was their surprise and the *execrable sedd'ore*, or 'the cursed thirst of gold,' settled upon that primitive people like a nightmare. They kept on digging, and unearthed quantities of golden ornaments and images of various kinds. Soon hundreds were digging in the forest, and it has been estimated that gold ornaments were uncovered to a value exceeding \$400,000 in a space of five or six years. They were sold for weight, or value in coin, and went into the melting pot. Later, some archæologists took an interest in the matter, and some systematic work was done, they directing and the natives doing the digging. It would seem that in the majority of cases the graves first were dug, their sides lined with pieces of stone, and then cross pieces were laid over these. Inside, the pottery was placed, together with ornaments of gold, cooking utensils, etc. The graves of the poorer class contained nothing but cooking utensils and no gold ornaments were found in them.

"A native locates a grave by tapping the earth as he walks along. As soon as he gets a hollow sound familiar to his expert ear he commences digging and digs down. The contents are stone implements, pottery implements, ornaments and pure gold, and ornaments of gold gilt, a species of pinchbeck, called by the natives here *tumbago*. There are also ornaments in copper, and a few bone instruments.

"There are a number of small idols in stone, varying from nine to eighteen inches high. There is also a species of grinding stone, on which they evidently ground their corn, or its equivalent. The better class of these grinding stones were from eighteen to twenty-four inches in length, and from twelve to fifteen inches in width. I am now speaking of some of the largest. They were concave on top, and in the graves were found stone rollers fitting the upper surface. Generally they were made to represent some animal.

CURIOUS IMPLEMENTS OF A BY-GONE RACE

"There were some with tiger-shaped heads and four legs. The tail generally folded around and rested on the left hind leg. A commoner type of grinding stone resembled a low stool of stone without any ornamentation. In the graves were found an endless variety of stone chisels and stone hatchets. Some of these chisels and hatchets were beautifully proportioned, presenting various planes and surfaces for examination, and their edges in many instances were sharp even after having been exposed for long centuries to the effects of that humid soil. These were the implements with which the people did all their carving.

"In the pottery implements the variety was almost endless, not only suggesting considerable ingenuity, but also some knowledge of the anatomy of the human body. Between many of these pieces of pottery and the male angels on the doors of La Merced, at Panama, there was a

striking analogy. . . . Roughly classifying the pottery utensils, they were of two kinds, glazed and unglazed, and many of the markings on them had been made in black and red pigments. Many of the borders, while crude, were very suggestive. There was a series of gods, little squat figures with triangular faces; nearly all of which had been glazed and were ornamental. Their pectoral development was remarkable. It is supposed that they were a kind of idol. . . . Then there were rattles of ingenious construction, with which they soothed the gentle baby in early days. There was a series of whistles (it is supposed that they were bird calls) producing all sorts of notes, from a full rich sound to a gentle twitter. . . .

THE MYSTIC FROG OF THE EARLY INDIANS

"Among the gold ornaments found in the *guacas* at Chiriqui were many frogs. The frog seems to have been a favorite type of ornament with those early races. The largest frog of pure gold uncovered there weighed eighteen ounces. . . . Another thing that seemed very strange to me was a kind of bell. It was of gold, and an exact counterpart of the oldtime sleigh-bells, or those with a slot. It had a handle and within were little pieces of metal, and these little bells, when shaken, emitted quite a musical sound. . . . Among the *tumbago* ornaments the majority represented birds or frogs. From a careful examination of a number of them the body seemed to be made of copper covered with a film of gold. How it was put on I am unable to say, but certainly gold it was. . . . I saw another specimen which caused me a deal of speculation. It evidently was intended for the figure of a king. It was in bronze, and that surprised me greatly, because the art of casting in bronze is deemed an art to this day."*

By classifying these discoveries it is shown that the Isthmian Indians were about on the same level of civilization

* Wolfred Nelson.

as the Indians of Mexico and Peru. They were in a later stage than the stone and bronze age.

THE MINERAL RESOURCES OF PANAMA

It is very probable that with the exploitation that is likely to follow the opening of the Canal, the Isthmus will prove to have rich and extensive mineral resources. Gold, copper, manganese, and coal are known to exist in different parts, but the greater portion of the country is yet to be subjected to geological surveys. When the waterway comes into use a great market for coal will be established at Panama and the demand will doubtless lead to the operation of local mines. The island of Muerto, near David, is said to be almost a solid mass of coal covered with a stratum of clay. As early as 1851 the geologists, Whiting and Schuman, made a report on this deposit which was published in London. Here would seem to be a favorable opportunity for American capital and enterprise.

There are large areas of good grazing ground in the western provinces, and the industry has been pursued to some extent. When the Canal is in use there will be a ready and profitable market for meat at Panama and cattle raising should become one of the chief industries of this section.

The country about the Chiriqui Bay already has a large and flourishing fruit trade. The entire region in the neighborhood of the Costa Rica border is exceeding rich—as rich as any in the tropics, perhaps. It might be developed with comparative ease. It has a pleasant and salubrious climate. The people are genial and hospitable; well disposed towards Americans and eager for improvement.

THE FAMOUS PEARL ISLANDS OF PANAMA BAY

The famous Pearl Islands lie in the Gulf about forty miles off the city of Panama. By the Spaniards they were called the King's Archipelago. The pearl fisheries are of very ancient origin. Balboa secured a number of the gems

from the Indians, and was told by them that the pearl oyster had been sought in these waters during uncountable ages. At one time these fisheries were probably as rich as any in the world, but reckless methods injured them, and whilst they are still worked in a desultory fashion, it may be said that the old beds are practically exhausted.

The pearls of Panama have always been noted for their size. It is said that specimens as large as filberts have been found. They are very lustrous and have a silvery sheen, differing from the creamy shade of the pearl of Ceylon.

The native Panamans are a more attractive people than one would be led to suppose from the accounts of travelers who have only come in contact with the lower classes in the city of Panama who are a mixed and far from representative lot.

It has long been a practice with the well-to-do creole families to send their children of both sexes to the best colleges of Europe and America. Consequently the upper class is distinguished by refinement and culture as well as many natural qualities of an admirable character. They entertain the strongest feelings of admiration and respect for the American people, and, if we may judge from recent experiences, our relations to the Panamans will continue without difficulty or friction.

The disbandment of the army by President Amador was effected with little trouble because of the kindly intervention of the American minister, whose advice was accepted by both sides in a friendly spirit. It is doubtful if any other South American Republic could attempt the retirement of the entire military force, no matter how weak, without precipitating a revolution.

The *rancheros* of the country districts are peacefully inclined and contented with their simple pastoral life. They live in huts of the simplest construction and till a few acres of ground. Their wants are very few and easily supplied. The condition of the peon will be improved with the general prosperity that is in store for the Isthmus.

Except upon the coasts the climate of the Isthmus is not worse than that of the average tropical region and in some parts of the territory it is quite healthful and pleasant. Hundreds of Americans have been employed by the railroad and many of them have enjoyed excellent health during residences extending from ten to twenty years. The average temperature is about eighty degrees and there is generally a refreshing breeze from the north. The humidity in the rainy season is great and its effect very enervating to natives of higher latitudes. There are two seasons. The wet season commences about the middle of April and lasts for eight months. The dry season from the middle of December is generally considered healthy even in the canal region. During this period the sky is a cloudless blue by day and at night the moon and stars are sublime.

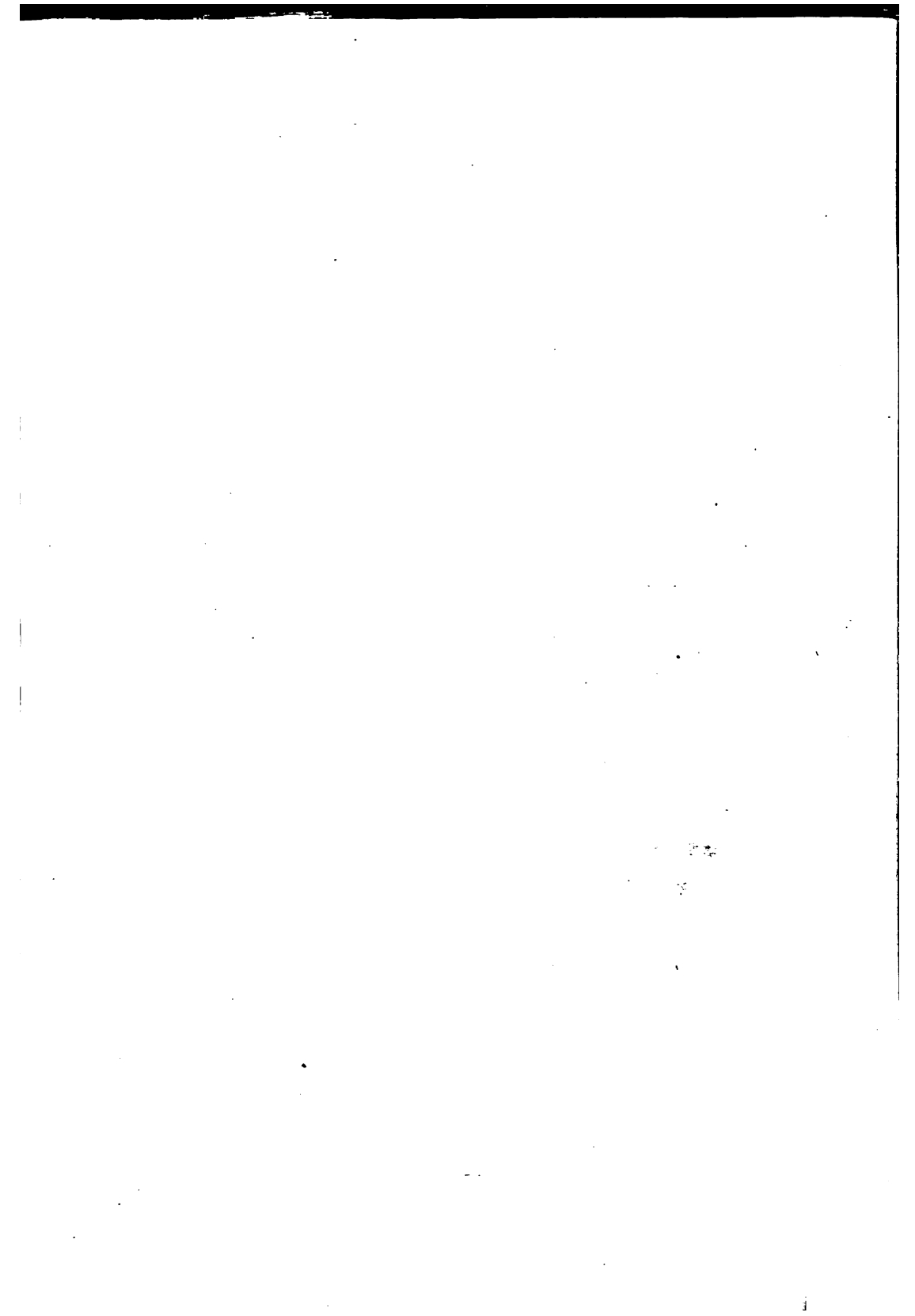
CHAPTER V

COLON AND PANAMA

In the days when Spain maintained a great trade route across the Isthmus, the Atlantic terminus was Porto Bello, about twenty miles east of the mouth of the Canal. A cluster of Indian shacks upon a low beach now marks the place where the Spanish galleons were wont to land their cargoes of merchandise and take on board the pearls and precious metals consigned to the king's treasury. The ruins of the old city are shut in by heavy woods and lost in a tangle of dense undergrowth.

The construction of the railway gave birth to the modern port. The Americans called it Aspinwall, after one of the chief promoters. By the French it was named Colon. The city is built upon the Island of Manzanillo, a sand-covered coralline formation, three-quarters of a mile in length and not more than six hundred yards broad. It stands a very few feet above the ocean at high tide and is connected with the mainland by the railway embankment. The original town was anything but a pleasant or healthy place of residence. The railroad buildings, dwellings, laborers' quarters, and shops, mostly of wood, were scattered about without any particular system or order. The center of the island was occupied by an almost stagnant lagoon, creating a most undesirable condition from a sanitary point of view.

During the disturbances incident to the revolution of 1885, Colon was completely destroyed by fire. It was reconstructed with somewhat more regard for convenience and sanitation, but still leaving much to be desired in both respects.





STEAM SHOVEL BURIED UNDER FALL OF ROCK.

Slides and rock falls have been serious problems for the Canal engineers. The soil is particularly liable to slide, but it is expected that the pressure of the water in the Canal will counteract this tendency. This shovel was working on the bottom of Canal when destroyed.

COLON AN UNATTRACTIVE CITY

The Colon of to-day is a straggling, unattractive city with some redeeming features, however, and a promise of more in the near future. The railroad company occupies the greater part of the water-front with its various buildings, including wharves and docks. Parallel with these is the main street, composed almost entirely of frame buildings. There are some good shops and a number of conscienceless dealers in spurious curios who, together with the enterprising money changers, reap a royal harvest from unsophisticated travelers. From the moment of landing the stranger is beset by a howling crowd of nondescripts who contend with one another for the privilege of fleecing him. His baggage is distributed amongst as many different individuals as possible, and upon his arrival at the hotel he is called upon to pay each one an exorbitant fee for his service, although it may have consisted in carrying a newspaper only. Before the American advent there was no escape from this imposition. If a victim refused to be mulcted he was haled before a magistrate who invariably supported the extortioners. In those days a man dared not ask a native the name of a street unless he was prepared to pay for the information. This system of bleeding the helpless foreigner is now confined within the bounds of semi-decency and an American, at least, is treated with a show of honesty.

COLON WAS AN UNSANITARY TOWN

Along the beach to the east of the town is the foreign quarter, containing some comfortable residences, an Episcopal church built of stone, and a tolerable hotel. On the west side, fronting the ocean, stand the handsome houses of the old French officials. They are grouped in a park beautifully laid out and convey the impression that our predecessors of the Canal did not neglect their personal comfort. The residence of de Lesseps is a particularly

attractive structure of two stories surrounded by a double pier of verandas. Back of the city upon the mainland is Mount Hope, or Monkey Hill, whose cemetery has a population greatly in excess of that of Colon.

A COMPARATIVELY HEALTHY TOWN

Despite its known disadvantages and extremely forbidding aspect Colon has a record in the matters of health and mortality that compares favorably with that of Panama and belies the apparent conditions. Yellow fever has rarely appeared at Colon and malaria is seldom contracted there. Perhaps the city owes its comparative healthfulness to its situation on an island and the fact that a considerable portion of its surface is washed by sea water in which, it is said, mosquitoes will not breed.

Time was when the word Panama suggested untold wealth and voluptuous luxury. That was in the halcyon days when the old city, designated the Key to the Pacific and the Gate of the Universe, was the receiving point for the gold of Darien, the pearls of the Gulf islands, and the silver from the mines of South America. Fabulous treasure was often stored in "Panama, the Golden," awaiting a favorable opportunity for carriage by the king's horses over that splendid engineering achievement, the paved way that crossed the Isthmus to Porto Bello.

THE DEPARTED GLORY OF PANAMA VIEJO

Panama Viejo was a beautiful city. On either side stretched a picturesque tree-lined coast. In the background the mountains reared their rugged heads and between them and the city rolled a noble savanna laid out in fertile fields and lovely drives. The city contained twelve thousand or more buildings. Many of the grand mansions were built of stone and others of aromatic cedar. There were palatial public buildings; a handsome stable for the king's horses, and a castellated depository for the

numbers to the Spanish main. It is related that Sir Francis Drake while on a peaceful trading expedition with Sir John Hawkins was treacherously set upon by a Spanish fleet and barely escaped with his life. From that day he vowed vengeance on the Spaniards and for a quarter of a century he harried the Spanish main and was a terror to every Spanish town from Trinidad to Campêche. In 1572 Drake set out with two ships and seventy-three men upon one of the boldest enterprises in history, namely, the sack of Nombre de Dios and the capture of the rich treasure convoy which he knew through spies was due to go across the Isthmus. In these objects Drake was entirely successful, securing considerable loot from the city and a great amount of gold, silver and jewels from the treasure caravan, probably amounting to not less than a hundred thousand dollars' worth. He again sacked and burned the town of Nombre de Dios in 1595 and sacked Porto Bello just afterward but here contracted the disease of which he afterward died. The success of Drake's raids and the enormous profit secured opened the eyes of other adventurous Englishmen to the rich field for their enterprises and for a century afterward preying upon Spanish commerce was a recognized occupation. The transportation of treasure across the Isthmus became so dangerous that the route around the Horn was adopted until Drake by his adventurous voyage through the Straits of Magellan captured so much booty and created such havoc among the Spanish treasure ships that trade once more returned to the Isthmus.

After Drake, perhaps the most noted of the freebooters was Henry Morgan, because of the greatness of the devastation he wrought in the Spanish trade and of the very interesting and minute account of his adventures written by Esquemeling. Morgan was a Welshman who gained considerable note on the Spanish main by his association with a Dutch pirate named Mansvelt in a project to create a buccaneer stronghold on the island of Santa Catalina. Mansvelt died and the island fell into the hands of the

Spanish. Morgan however was in Jamaica when the island was taken and consequently was safe, as Jamaica had been seized by the English in 1655, some ten years before. Soon afterward Morgan, having gathered a fleet of nine ships and nearly five hundred men, set out to capture and sack Porto Bello. In this daring enterprise Morgan was entirely successful. Anchoring his ships some nine leagues from the city the pirates entered small boats and landed shortly after midnight and attacked a castle near the city. After considerable difficulty they captured this and blew up the garrison. This attack alarmed the city however and for the rest of the day a desperate fight raged about one of the defending castles. The buccaneers were repeatedly repulsed until they hit upon the scheme of placing ladders against the battlements and driving nuns and priests ahead of them up these ladders. The garrison fired upon these religious people, but though they died painful deaths the plan worked and with the ladders so placed the capture of the castle and fall of the city soon followed. For two weeks the rioting and sack of the city continued, then having extorted a ransom of \$125,000 from the citizens Morgan departed, returning to the West Indies. The money did not last long however and Morgan was soon planning a new raid. With the reputation gained on his Porto Bello expedition he had no trouble in gathering a force and having decided to attack Old Panama he set sail with thirty-seven ships and two thousand men. Stopping at Santa Catalina he captured the island after a faint resistance and holding the main body of the expedition there he sent one of his captains named Brodley ahead to take the fortress at the mouth of the Chagres river, called Fort San Lorenzo. It was a tremendous undertaking with so small a force (four ships and four hundred men) but Brodley succeeded in his endeavor after an heroic attack in the face of desperate resistance. In a few days the main force under Morgan appeared and leaving a garrison at Fort San Lorenzo began his famous march across the

Isthmus with twelve hundred men. The crossing occupied ten days of hunger, thirst and terrible hardships, but at last they arrived before the city of Panama, garrisoned by four hundred cavalry, twenty-four hundred infantry and heavy artillery. Fortunately for the tired buccaneers, the Spanish instead of awaiting their attack elected to charge them. On they came across a swampy field in the face of a tremendous fire from the pirates. It was too much and soon the charge broke and turned to a rout, the Spaniards taking refuge in the jungle. This left the way to the city opened and Morgan was not slow to pursue his advantage. After a brief resistance he found the city at his mercy and marching in ordered a round-up of the citizens in a systematic scheme for extracting all the wealth the city contained. For three weeks the pirates robbed and pillaged, though without many of the excesses which had marked the capture of Porto Bello. During this time a large portion of the city was burned though the origin of the fire is not known. Satisfied that they had obtained all possible loot from the city Morgan's men began the march back across the Isthmus to Fort San Lorenzo. Here the spoil was divided and great dissatisfaction ensued when it was found that each man's share amounted to only about one hundred dollars. It seemed a poor return for the hardships and privations endured. Morgan was blamed for an unfair division of the spoils and so bitter were the denunciations that he thought it wise to depart without the formality of a leave-taking, followed by a few only of his ships. The balance of the pirates were left to get away as best they could. Morgan sailed to Jamaica, made his peace with the governor by dividing his share of the loot. It is somewhat remarkable to relate that he abandoned buccaneering and soon succeeded to the governorship. In that office he was notably diligent in the suppression of piracy!

After Morgan's great raid on Panama buccaneering began to die out on the Spanish main. The ports were not entirely neglected however and Hawkins, Sharp and

others continued operations for some years. The greatest exploit of these later pirates was the attack upon the rebuilt city of Panama. With a force of about three hundred and fifty men they sailed for Panama and fought a great naval battle in the Bay of Panama with five Spanish men-of-war. Though victorious in this they did not attempt a landing, but after a ten day stay in the harbor sailed for the coast of South America where the expedition split into two sections. One party under the pirate leaders Dampier and Wafer, referred to earlier in this chapter, made the perilous journey across the Isthmus. Surrounded by hostile Indians, at the mercy of the swollen streams and tropical jungle they at last managed to reach the Atlantic and Dampier's ship.

Today one must look for the ruins of Panama Viejo amidst a rank growth of tropical vegetation, above which rears the sturdy tower of St. Anastasius, at whose altar Pizarro made votive supplication before setting out upon his momentous voyage to the south. The sudden and tragic fall of the old city, in the pride of its beauty and strength, had a depressing effect upon the Spaniards and left them with no heart to resurrect it. They transferred the capital to a site about six miles to the west, but the glory of "Panama the Golden" was never revived in its adumbrant successor.

NEW PANAMA BUILT WITH REGARD TO DEFENSE

In building the new Pacific port the Spaniards were not unmindful of the lesson taught by the buccaneer raid. The city was laid out upon a rocky peninsula, the whole of which is occupied by it. A wall, thirty to forty feet in height and of solid masonry, in places sixty feet broad, skirted the entire shore. Along the bay-front the outer wall was reinforced by another, and the intervening space formed a moat. This wall and its accessories cost more than eleven millions of dollars, despite the fact that the natives were forced to

render almost gratuitous service in its construction. Much of the wall still remains in a good condition of preservation. It is used as a promenade by the citizens and as a playground by their children. The moat has long been dry and some of the poorer dwellings have been raised within it. There is a story of a king of Spain who was noticed one day to be looking out toward the west from a high window of his palace. A minister, who remarked the strained expression of the monarch's eyes, ventured to enquire what might be the object of his anxiety. "I am looking," said the king, "for those costly walls of Panama. They ought to be discernible even at this distance."

THE HOUSES AND CHURCHES CONVERTIBLE INTO FORTS

All the old buildings of Panama were designed for use as forts in case of need. The houses have walls of stone, three feet thick, with heavy doors, often iron-clad, and windows only in the second story. Similar precautions were observed in the construction of the churches. Their sides were made to resist the heaviest artillery of the day, and their windows stand sixteen or twenty feet above the ground. These defensive measures were justified by after events, for, although the later Panama never fell into the hands of an enemy during the Spanish dominion, its strength alone saved it from attack on more than one occasion. Shortly after its foundation an unsuccessful attempt to take it was made by a force of buccaneers. That extraordinary man, Captain Dampier, took part in this enterprise.

The substantial houses of Panama are much like those of the old Spanish colonies in other parts of the world—solid, heavy, forbidding structures, the upper story of which alone is occupied by the owners. In Panama, as in San Juan and Manila, the best families are to be found living over a herd of natives, or negroes, unless the ground floor is given up to a store, or workshop. The lower portions of the houses seldom have any windows in front, and if any



PRESIDENT ROOSEVELT ON A GIANT STEAM SHOVEL.

During his visit to the Isthmus, while President, Mr. Roosevelt dispensed with ceremony, went among the men, talking and eating with them. In this way he obtained a very intimate knowledge of the great enterprise. His visit marked the first occasion upon which a President of the United States left the country during his term of office.



exist, they are strongly barred. A veranda, overhanging the sidewalk, is the evening resort of the occupants of the upper half of the dwelling.

The streets, formerly paved with cobble-stones, are tortuous and often very narrow. There is too much congestion for health, or convenience, and the improvements in this direction will be a boon to the inhabitants. It is gratifying that, unlike the people of other Spanish-American cities which have been treated to a clean-up by us, the Panamans are immediately appreciative of our efforts in their behalf.

THE INTERESTING CHURCHES OF MODERN PANAMA

The churches and ecclesiastical ruins of Panama present a rich field for the research of the antiquarian and the architect, and a capable writer might find material for a highly interesting volume in them. "The oldest church is that of San Felipe Neri, in the long past the parish church of the city within the walls. Its side is on a narrow street, and over the sole entrance one reads, 'San Felipe Neri, 1688,' cut in a shield." The early Spaniards were famous for making cements, both colored and uncolored. So hard were they that they have stood the effects of the heat and moisture of that destructive climate without damage. This old-time cement to-day is as hard as stone. Over the entrance to public buildings and churches they made their inscriptions in these cements, in many instances filling in odd spaces with ornamental work made of the large pearl shells from the famous *Islas de Perlas*, or Pearl Islands, in the Gulf of Panama. Such designs when new must have been chaste and beautiful, as the smooth mother-of-pearl surfaces of the large shells on a background of reddish cement must have made a beautiful contrast, the shells reflecting the sun rays in a thousand directions. "This quaint and most substantial old edifice faces on a small street. At one time it made the corner of the Plaza San Francisco. The large door is reached by a few stone steps on either side

the empty receptacles offered for sale, or hire. The same system of leasing space is in force in the *boveda* enclosures. A *boveda* is a niche just large enough to accommodate the coffin of an adult. The cemetery is formed of a quadrangle surrounded by three tiers of *bovedas*. These are rented for a term of eighteen months, and after a coffin is deposited in one, the opening is closed with a slab, or bricked up. Where the space has been permanently secured, a memorial tablet often seals the aperture. When the rent of one of these sepulchers is overdue its contents are thrown out in just as business-like a manner as that in which a harsh landlord might evict a delinquent tenant. Perhaps the foregoing statements ought to have been made in the past tense, for the Canal Commission, in the exercise of its right of control in sanitary matters, has vigorously moderated all similar practices. There has been an abatement of the evil in recent years as a result of the protests of foreigners. This disgraceful custom of disturbing the dead was confined to the natives. In the Chinese cemetery and in that of the Jews, corpses have been permitted to rest in peace, and it goes without saying that such has been the case in the burial grounds controlled by the railroad and canal companies.

IN SPANISH-AMERICA GRAFT EXTENDS TO THE GRAVE

One would naturally infer from the conditions, that the Panamans entertained no respect for the memory, or bones, of their deceased relatives, but such is not the case. The truth is that the system of renting graves is an exhibition of the "graft" that has for ages pervaded every rood of territory under Spanish rule. The right to conduct a cemetery, like the privilege of running a gambling establishment, was farmed out to the highest bidder, and the *concesionario* might regulate his business in almost any manner he pleased. The price of a permanent grave was placed so high that the poorer classes could afford no more than

a temporary lease, and when that had expired often found themselves unable to renew it. The fact that they did not dispense with consecrated ground, as they might have been excused for doing under the circumstances, is sufficient evidence of their regard for the welfare of their dead.

Panama was once a most disorderly city, filled with low grog-shops, and reminding one of Port Said in the seventies. Robberies, murders and hold-ups were every day affairs, but to-day it is a quiet and orderly place, with a well-equipped and efficient police force.

AMERICAN AUTHORITY IN THE PANAMAN REPUBLIC

The treaty with the Republic of Panama gave to the United States jurisdiction in the matter of sanitation and order, beyond the limits of the Canal Zone, into the cities of Colon and Panama and over the adjacent waters. The Commission determined to make Panama a clean and, at least, moderately healthy city. The task was a stupendous one, and the difficulties involved by it were fully appreciated, but it has been successfully attacked and plans for a thorough transformation of the capital realized. Panama existed without a water supply, or a sewerage system, for more than three centuries, and a magazine writer once remarked that it would not seem to matter greatly if it were left in the same condition for another decade or so. That, however, was not the way in which the Commission viewed the matter. These defects have been considerably remedied and a great deal toward their complete removal has been accomplished.

PANAMA ENJOYS THE BOON OF GOOD WATER

By the enlargement of a dam, which the Panama Canal Company had constructed at the headwaters of the Rio Grande, an extensive reservoir has been formed. The water has been piped from this to another reservoir, on the summit of a small hill at Ancon, having a capacity of one

million gallons. Thence it flows by gravity to the city. The system is designed to furnish sixty gallons a day per head to a population of thirty thousand. At points on the streets, or other public places, where portions of the population may not have sufficient means to make house connections, hydrants have been placed, so that an unlimited supply of good water may be obtained without cost or difficulty. Before deciding upon the source of the supply, the Commission submitted samples of the water from the upper, or Rio Grande, reservoir to expert bacteriologists and chemical analyzers. After thorough tests the water was pronounced satisfactory before even the banks and bed of the reservoir had been cleaned of vegetation.

A system of sewerage has been installed which cares for sixty gallons per head of the population per day and, in addition, one inch of rainfall per hour. This does not provide for the disposal of the maximum precipitation in the rainy season, but any excess over the capacity of the sewers will be carried through surface channels. The sewerage system, with a total length of nearly eighteen miles, serves every portion of the city, and may be readily extended to outlying districts.