The early history and present condition of the road, at least so much of it as has been thought would prove interesting and serviceable to the general reader, has been presented. The sources of its present business have been shown, and some idea of its probable increase from these; but a large and important field within the legitimate scope of the enterprise demands a little attention from its bearings on the future business of the road. A glance at the geographical situation of the Isthmus of Panama, in its relation with Australia, China, Japan, and the Sandwich Islands, will discover the capacity of the transit to shorten the distances from those countries to the markets of the United States by so many thousands of miles as must make it an eventual necessity for the trade, at least a large portion of it, to seek this, the only direct route between the Atlantic and Pacific Oceans.*

TRAVELER'S GUIDE.

As the traveler enters the harbor of Navy Bay he can not fail to observe the beauty of the scene spread out before him. On the right and in front of the harbor, which sweeps around a semicircle of some three miles in extent, the primeval forest of the tropics, with its dense vinous un-
dergrowth and its towering cocoa and palm trees, meets his view; on the left, from the iron light-house on the extreme seaward point, the brightly-painted America-Spanish town of Aspinwall extends, its long covered wharves filled with the shipping of many nations. A verandaed street skirts the shore, and a dense equatorial forest rising up behind is relieved by the faint and misty mountain range, which forms the back-bone of the Isthmus, and connects the great Cordillera of the northern and southern continents—the Rocky Mountains and the Andes. This harbor (said to have been discovered by Columbus during his third voyage, and by him named "Navy Bay") is three miles in length by two in breadth, with an average depth of seven fathoms, affording good anchorage ground in every part. Since the establishment of the Panama Railroad it has been a rendezvous for the United States Atlantic squadron, and one or more frigates of the first class may usually be seen at anchor; also a United States store-ship, which has its permanent station here.

The city of Aspinwall, which has grown up from the necessity of its position as the Atlantic terminus of the railroad, while answering its purpose as a receiving and transshipping depot, has but little, architecturally, to recommend it to notice, the dwellings, some two hundred in number, being of wood, and built in a style midway between the New England house and the verandaed structures usual in the tropics. They are built on land leased from the Company by private individuals.

The voyager coming to Aspinwall by the United States mail steam-ships will be landed at the end of an immense wharf belonging to the Company, and will find it worth his while to take a walk about the town ere making the transit of the Isthmus. First, it may not be amiss to notice the wharf itself, which extends from the shore out upon a coral reef, nearly a thousand feet, to where a depth of wa-
ter exists sufficient to float the largest ships. It is forty feet in breadth, and covered by a lofty metallic roof; the piles upon which it stands are coppered to protect them from the *teredo*, a boring worm which infests these waters, and rapidly destroys every kind of timber unless thus protected. At the upper end of the wharf a grove of cocoanut-trees shoots up through the flooring, and at any and every season of the year the cocoanut, in the bud, the blossom, and full grown, may here be seen. Several large iron tanks are situated at the head of the wharf, each of a capacity of several thousand gallons. The whole island of Manzanilla, upon which Aspinwall is situated, a mile in length by three quarters in width, being a low coral foundation, has no springs of water, and that obtained by digging is so brackish that rain-water is used instead; these tanks, filled by the rains which prevail for more than half the year, before the establishment of the great reservoir, furnished the supply of water for the shipping during the dry season. At the head of the wharf you reach the quadruple track of the railway. Proceeding toward its Atlantic terminus, you pass, on your left, the line of stores, shops, and hotels which were visible from the entrance of the harbor. The shops, perhaps half a dozen in number, usually display a very respectable assortment of goods, principally ready-made clothing, fancy articles, and groceries. Among them are several quite extensive importing houses of French, English, and American merchandise, and Havana cigars for the South American market and the shipping visiting the port.

The hotels,* of which there are, great and small, at least a dozen, have, for this country, very fair accommodation for all classes of travelers, at from one to four dollars per day;

* Probably the best accommodation will be found at the Howard, City, and Aspinwall Hotels. Usual charge for first class passengers $3 per day. Second class passengers are accommodated at the other houses at considerably lower rates. It is well to have the terms well understood beforehand.
but little business, however, is done among them except on the arrival of the passenger steamers of the California line. In 1852, when these hotels were erected, travelers were often detained here for several days, when the landlords drove a brisk trade; but now the ship-loads of passengers are seldom detained here more than two or three hours, and, although a brisk business is done for the time, the publican finds his opportunity too brief to realize much profit.

At the end of the row stands the Panama Railroad Company's office, a respectable fire-proof two-story brick building, into the upper windows of which the wires of the Isthmus Telegraph converge. The poles, or, more properly, the pillars, which serve to support the wires of this telegraph line, from their symmetry, strength, and novel construction, are worthy of particular notice. They are apparently of hewn stone. Some two years since, after much trouble and expense had resulted in consequence of the rapid decay of the wooden poles formerly used, Colonel Totten conceived the idea of moulding a support of concrete. A small straight stick of the necessary height was placed upright, and surrounded by a jointed wooden mould, fifteen inches in diameter at the base, tapering to about eight inches at the top, and sunk into the earth sufficiently for firm support; this was filled with concrete, and allowed to stand for several days. When the mould was removed, it was found firm and strong, and apparently every way adapted to the purpose. This fact once settled, the entire line was supplied with these quasi stone columns, but little exceeding the unsightly wooden poles in expense, and perfectly weather and insect proof. It is now nearly two years since their establishment, and they bid fair, extraordinary occurrences excepted, to last for a century.

Farther along the track, on your right, you pass the main railroad wharf, at which any day in the year several vessels, sail or steam, may be seen actively discharging car-
goes for shipment across the road. A couple of hundred yards brings you to a massive stone structure three hundred feet long by eighty wide, through whose broad-arched entrances a triple track is laid. This is the freight depot of the Panama Railroad Company, and the following description by a recent visitor will give the traveler an idea of its usual internal appearance:

"Bales of quina bark from the interior were piled many tiers deep, and reached to the iron triangular-braced roof of the edifice. Ceroons of indigo and cochineal from San Salvador and Guatemala; coffee from Costa Rica, and cacao from Ecuador; sarsaparilla from Nicaragua, and ivory-nuts from Porto Bello; copper ore from Bolivia; silver bars from Chili; boxes of hard dollars from Mexico, and gold ore from California; hides from the whole range of the North and South Pacific coast; hundreds of bushels of glistening pearl-oyster shells from the fisheries of Panama lay heaped along the floor, flanked by no end of North American beef, pork, flour, bread, and cheese, for the provisioning of the Pacific coast, and English and French goods for the same markets; while in a train of cattle-cars that stood on one of the tracks were huddled about a hundred meek-looking lamas from Peru, on their way to the island of Cuba, among whose mountains they are used for beasts of burden as well as for their wool."

Its situation is on the direct line of the road, its seaward side opening by great doors out upon the waters of the bay, so as to allow vessels of light tonnage to discharge cargo directly into the depot, while for the heavier a covered wharf extends from the centre into six fathom water. On emerging from the farther extremity of the freight-house, a hundred paces brings you to the Mingillo, or native market-place. A few lusty half-naked negroes, descended from the African slaves of the old Spanish dominion (who form a large proportion of the littoral population of the Isthmus) are gen-
erally seen supplying their customers with fish, cassava, bananas, plantains, and many other fruits and vegetables of the country, from out the bongoes which lay alongside the wharf, or, grouped on the shore over smoking kettles of sancoche, ladling out this favorite compound to their native patrons. Large quantities of the vegetable ivory-nut are also brought here by the natives for barter and sale. Sometimes a few aboriginal Indians from the region of San Blas (some sixty miles down the coast) may be seen here. Rather under the medium stature, they are broad-shouldered and muscular, with the straight black hair and high cheek-bones of the North American tribes. They have a peculiar interest from the fact that they belong to a tribe never subjugated by the Conquistadores, but who have maintained an unwavering hostility to the Spaniard since the first discovery of the country, and have cherished such a jealousy of their independence that, to the present day, no white man has been permitted to land upon their shores. Their usual dress consists of a simple fold of cloth tied about the loins, though they are not unfrequently seen clad after the manner of the Spanish natives, in a loose shirt and loose cotton or hempen trowsers. Though apparently apathetic and uncommunicative, there is a considerable degree of intelligence in their expression, and a conscious independence in their bearing, that gives one a fair idea of the races which Columbus and his followers found here in the days of old. They have recently allowed one or two small trading schooners twice or thrice a year to anchor near their shores and traffic with them, receiving calicoes, beads, and other ornaments, machetas, etc., in exchange for tortoise-shell, ivory-nuts, and gold dust; but every attempt to explore their country has been uniformly resisted. Their chief weapon is the bow and arrow (the arrow armed with fish-bones), in the use of which they are said to be very skillful, and to be in the habit of using it effectively not only upon
land, but in their waters; with barbed palm-wood arrows some four feet in length, they have the reputation of being able to transfix large fish at a distance of two or three feet beneath the surface.

Along the opposite side of the railway from the Mingillo lies a broad lagoon covering a couple of acres, and connected with the waters of the harbor by a narrow opening under the road. This lagoon is crossed at about the centre by a recently-made street, and will soon be still farther reduced in extent by others. A line of low tenements, principally occupied by the native population, a few stores, and a large hotel, the Aspinwall House, bound its opposite shore, beyond which a dense swamp-forest shuts off the view. Proceeding a little farther, you pass "Johnson's Ice-house," or, rather, if you have an eye to creature comfort, you will not pass it, for it is a depot for ice and such things for the inner man as may be preserved in it of northern product. Five ships a year come consigned to this establishment from the Boston Ice Company, and Johnson, "the Ice-man of the Isthmus," is decidedly a man whose acquaintance is worth cultivating in this climate. Turning now to the left, toward the sea-beach, which forms a semicircle around this end of the island, the driving surf of centuries has washed up along its whole extent a wide barrier of shells and coral. Upon this you will first observe the hospitals of the Railroad Company, a couple of large, airy buildings, surrounded by generous tiers of piazzas, about which a general air of tidiness and comfort prevails. Although built for the exclusive use of the Company, strangers requiring medical aid are permitted to avail themselves of their advantages. A little to the left is a long wooden building, which contains the lecture-room, library, and club-room of the employees of the Company. A well-selected library of several hundred volumes, and the standard periodicals and journals, may be seen here; there are also materials for a snug
To the eastward of the "Mess-house," and distant about 200 yards, stands a beautiful Gothic edifice, built of hewn stone. It is the Protestant Episcopal Church of Aspinwall, and the only Protestant church in this country. It was erected by private subscription, aided by the Panama Railroad Company, in 1864, from plans executed by Mr. James Benwick, Architect, of New York, and is capable of seating about 300 people. It was consecrated by the late Rt. Rev. Bishop Alonzo Potter, of Pennsylvania, in the month of June, 1865, and was one of the last acts of his professional life. Its pastor, the Rev. Richard Temple, was commissioned for this field of labor by the Protestant Episcopal Missionary Society of New York, and is maintained here by the Company.
game of billiards, backgammon, or chess. Three or four
neat little cottages come next along the line of the beach,
the residences of the principal officers of the Company, with
little garden-plats in the rear, and an occasional cocoa-tree
throwing pleasant shadows over them. A little farther on
is a fine corrugated iron dwelling, the residence of the Roy-
al Mail Steam Packet Company's agent; next to this is seen
the general domestic rendezvous of the Railroad Company's
officials (usually known as the "Mess-house"), imbedded
in a grove of cocoa and banana trees. Within fifty yards
of the rolling surf, the sea-breeze ever playing through its
surrounding foliage, it would be difficult to find a more de-
sirable tropical residence.

Still farther on to the right are the buildings of the ter-
minus, car repositories, etc., and machine-shops, whose tall
chimneys send up* steady columns of smoke, while the ring
of many hammers breaks cheerily upon the ear. Along
the beach a nicely-graded road has been constructed, which
extends the entire circumference of the island, and for more
than two thirds of its course it passes along or through the
dense and luxuriant tropical forest with which nearly one
half the island is still covered. The "Paseo Coral," as this
beautiful walk or drive is called, was built by the citizens
of Aspinwall, every facility and aid being rendered by the
Railroad Company; and morning and evening, especially on
Sundays and holidays, it is a favorite resort of the inhab-
nants of all classes, a few on horseback or in light wagons,
but the great majority on foot. Any lover of the beautiful
in nature will find it worth his while to make a tour of this
"Paseo;" on one side charming glimpses of the ocean and
of the "Archipelago" (which cuts off the island of Manza-
nilla from the main land) meet the eye at every turn, and
at almost any point the conchologist may step out upon the
coral reef and find sea-shells, fans, and coral to an indefi-
nite extent; on the other, a great variety of tropical vege-
PANAMA RAILROAD.

JOURNEY OVER THE ROAD.

While the principal portion of the route of the Panama Railroad affords to the traveler but little of historic interest apart from its own construction, passing as it does through the heart of a primeval tropical forest for many miles of its extent, and among the wildest and most picturesque mountain scenery, along beautiful rivers, fertile plains, and luxuriant lowlands, for the remainder it affords the observant traveler an opportunity of an easy enjoyment and acquaintance with intertropical nature unsurpassed in any part of the world. Though in point of climate a perpetual summer reigns, the successive conditions are modified by the dry and wet seasons which, as a result of the breast of the vegetation a constant succession of changes in color and form ever new and beautiful. From May until Oc-
the rains fall almost daily for several hours; there are usually also several hours each day of bright sunshine. Occasionally throughout the wet season the rain falls for several days without cessation, and in violence and amount seldom if ever seen in northern latitudes. During this season the forests are clothed in brilliant and varied greens, and many of the large forest-trees are covered with blossoms of white, scarlet, or yellow, which, together with the myriads of parasites, epiphytes, and flowering vines, often produce the most gorgeous effects. During the dry season, which occupies the rest of the year, while showers are not uncommon, it is usual to see two, and even three months pass without rain, and the vegetation is scarcely less beautiful than in the wet, though toward the latter part many of the larger trees are destitute of foliage, and the browns and yellows of dying leaves are seen on every side; yet the rich greens still preponderate sufficiently to give a decided summer character to the whole; and the evergreen palms, from which hang numberless clusters of ripe palm-nuts of the richest scarlet; the lowland trees, that blossom at every season; and the passifloras, and many other beautiful flowers, that develop only in the dry season, make it difficult to say which of the two seasons will afford the rarest botanical and floral treat to the traveler; at any and every season the vegetation is varied, luxuriant, and gorgeous beyond comparison. There are, besides, at almost every step, objects novel and interesting among the riches of the animal kingdom, and also in the varied geological formations displayed along the line of the road; in fact, few locations in the world present a more promising field of research for the botanist, the geologist, or the student of natural history. Eminent scientific men from the United States, England, and Germany have already spent considerable time and labor in explorations here, but the results of their researches have not as yet been given to the public. As, however, few travelers
over the road have any opportunity other than that afforded by the rapid railway transit to examine the objects of interest on its course, a brief account of the more prominent and readily recognized will perhaps be deemed sufficient for the general reader.

In making the journey over the railroad to the Pacific terminus, starting at the depot at Aspinwall, a third of a mile brings you to that part of the island shore where the railway leaves it, and crosses over the frith to the swamps of the mainland. At this point, which is crossed by an artificial isthmus (built originally of piles and crib-work, but since replaced by solid stone and earth), the channel is about two hundred yards in width, broadening rapidly to the eastward into a miniature archipelago, with a dozen little islands overgrown with mangrove bushes, and lying upon its glassy surface like emeralds upon a mirror. To the westward it again expands into a wide, placid basin, only separated by a narrow belt of foliage from the waters of the bay. The shores on every hand are skirted with a dense growth of mangrove bushes, which droop deep into the water, while directly in front, through the vista opened by the railway, an apparently interminable forest meets the eye. These waters abound in the beautiful varieties of fish known among the natives as "flores del mar," or "the flowers of the sea:" in shape and size they resemble the sun-fish of our Northern lakes, and are remarkable for their varied and brilliant colors.

The mangrove bushes are not unlike the banyan-tree in the manner of their growth. Their branches, shooting downward, frequently enter the soil, take root, and, interlacing again and again, form a barrier requiring a stout hatchet or machete to overcome. Many of the branches which dip into the water are loaded with a variety of the Crustacea, almost, if not quite, identical with our Northern oysters, varying in size from a dime to a dollar: several pounds often
MOUNT HOPE.
depend from a single bough. Submerged by every tide, they are well nourished and exceedingly palatable, and, although so small, well worth the trouble of opening. English snipe, plover, teal, heron, and pelican are abundant about here at certain seasons.

About a mile farther on, to the left of a spur of high land, through which the railway passes by a deep long cut, is seen the tall forest of Mount Hope, upon which is located the general cemetery of Aspinwall. A pleasant winding path through the thick undergrowth soon brings you upon the spot. Dense foliage surrounds it on every side. This place was selected for a burial-ground shortly after the commencement of the road, and many victims to the hardships of the work and the virulence of the climate were then buried here; but those days of trial have passed, and the long grass waving over their graves tells of the years since then. A few are recent, and marked by simple monuments; among them will be noticed several of the officers of the United States Home Squadron. The lamented Strain (whose suffering and heroism as the leader of the ill-fated Darien expedition are still fresh in the memory of his countrymen) lies buried here. The surrounding woods, especially toward evening and in the early morning, are vocal with the notes of numerous birds. The sweet and sonorous whistle of the turpiale and the cooing of the turtle-dove mingle with the harsh cries of the parrot tribe and the still harsher note of the toucan. Frequent opportunities occur of procuring these different varieties of birds from the natives, as they are more or less numerous along the entire line of the road, and become domesticated with little trouble. The turpiale, which is about the size of a robin, with deep black and bright yellow plumage, is quite equal to the magpie in intelligence and cunning, and is one of the finest whistlers known. The toucan, a dark scarlet-breasted bird, about the size of a pigeon, with a heavy serrated bill six or
seven inches in length, is one of the ornithological curiosities of this region; picking up its food on the point of its huge beak, by a sudden jerk it tosses it up half a yard, and as it falls catches it deep in its throat; it also makes extraordinary motions over the water when attempting to drink. The habits of the toucan in this respect were noticed by the early Spanish-American priests, who, averring that this bird, in drinking, made the sign of the cross over the water, called it "Dios te de" (God gives it thee). Considerable land in the vicinity of Mount Hope has been cleared, and cultivated with success and profit. Proceeding along the track beyond Mount Hope, you begin to bring more fully into view the wondrous wealth of the Isthmian forest. For a space of fifty feet on either side of the solid track embankment the original growth has been swept away and replaced by a rich display of aquatic plants, through whose broad shining leaves myriads of callas and long, slim-petaled pond-lilies struggle out to fill the air with their delicious perfume. This low and recent vegetation is walled in by a primeval growth of a variety and luxuriance that almost defies description. Palm-trees, slender and tall, from under whose crowns hang long scarlet and yellow tassels; palms, low and huge, with trunks scarce lifted above the slimy ooze, sending out graceful pinnate leaves half a dozen yards in length; great cedro and espabe trees, towering up like giants for a hundred feet, then sending out strong arms that almost clasp each other across the clearing, their trunks covered with thick vines and parasites. These and many other varieties are so closely set and interwoven together that the eye fails to penetrate into the depths of the forest. The great number and variety of parasitic growths can not fail to attract constant attention. Almost every tree and shrub supports more or less of these treacherous leeches, in form and size ranging from the simple tuft of grass to the enormous growths whose branches equal in magnitude those
of the largest trees, and frequently exceed those of the poor victim from which their strength is drawn. Some are seen which had originally taken root upon the trunks of large and thrifty trees, which, under their exhausting demands and vice-like embrace, have died and rotted out, leaving the well-conditioned leech, though a mere shell, upright, and so like the original tree that, except for occasional apertures which discloses the hollowness within, their villainy might at a little distance escape detection. Many bear beautiful and fragrant flowers. A curious and exceedingly common variety springs from seeds deposited in the ordure of birds upon the highest trees, sending long fibrous tendrils, without a single branching twig, down to the earth, when it again takes root, and increases in size until it frequently attains a diameter of five or six inches. Often trees, so decayed that otherwise they must have fallen, are by these supports retained in their upright position for many years. The smaller ones, combining pliability with great strength, are much used as cordage by the natives. Trailing vines and blossoming creepers are on every side in great profusion and luxuriance, enwrapping the trees and hanging in variegated festoons from the branches. As you proceed, every moment new, and, if possible, richer varieties of vegetation pass in quick review, until you are almost lost in wonder and admiration. At about three miles from the terminus a bend is cut off in the small sluggish stream, called the Mindee, whose waters are half concealed by the overhanging verdure; along its banks the tall and graceful bamboo, that giant of the grasses, adds a new beauty to the scene. The waters of the Mindee, which empties into Navy Bay about a mile and a half from Aspinwall, abound with alligators, often of great size, which afford plenty of exciting sport to parties from the city, who make occasional incursions upon them, and to the natives, who value them greatly for their oil, which is used for medication, and their teeth,
which are worn as potent charms. Not unfrequently these ugly beasts crawl out into the pools along the railway track, where they may be seen basking in the sun, scarcely deigning to lift their unwieldy heads as the train thunders by.

In the immediate vicinity of the Mindee some of the lands are dry enough to be susceptible of tillage. Native huts may here and there be seen near the road surrounded by patches of plantains, bananas, Indian-corn, and sugar-cane. Beyond this the forest vegetation is varied and enriched by a species of the palm, from the fruit of which the palm-oil of commerce is extracted. It differs little in form from the tasseled variety which has been previously noticed, except that it attains a greater size, and, instead of the gaudy tassel, bears immense clusters of scarlet nuts about as large as a lime; the clusters, shooting out from the trunk of the tree just underneath its foliage, hang by a single stem, and are often two or three feet in length, contrasting vividly with the surrounding verdure. The palm-tree, that prince of the vegetable kingdom, which is so characteristic of tropical vegetation, is nowhere more abundant in variety and beauty than upon the Isthmus, no less than twenty-one varieties having already been found and classified here. Conspicuous among them for their practical use to the natives of the country are the "wine palm," from the sap of which is distilled a sweet and intoxicating beverage; the "motombo," or sago palm, which furnishes the sago; the "ivory palm," producing the vegetable ivory-nut of commerce; the "glove palm," which furnishes, by the covering of its spatha, ready-made bags, capable of holding grain, etc., to the amount of nearly half a bushel; the "cabbage palm," the tender shoots upon the summit of which resemble in appearance and nutritiousness the ordinary cabbage; others also there are from which they manufacture flax, sugar, various domestic utensils, weapons, and
food; besides this, the habitations of the people are framed of their trunks and roofed with their leaves.

Passing the seventh mile-post, you emerge from the swamp, and come to the Gatun Station, located upon the eastern bank of the Rio Chagres, which is at this point about fifty yards in width, and here makes a great bend, opening beautiful vistas through the dense forests up and down its course. This bank of the river is formed by a ridge of low hills, across the foot of which the railway runs. A few yards from the road, on the high ground to the left, are the buildings of the station. A large, two-story framed building, about forty feet in length by thirty in breadth, surrounded by piazzas and balustrades, is the residence of the local superintendent and the foreign workmen employed on this section. Suitable out-buildings are situated in the rear, and a little garden in front, where the roses and peonies, the pinks and pansies of our northern clime, challenge comparison with the orchids, fuchsias, and passifloras of the tropics; and there are radishes, cucumbers, and lettuce contrasting curiously with the native products of the place. With a few unimportant exceptions, this establishment is similar to that of all the stations, which are situated about four miles distant from each other along the entire length of the road. The duty of the local superintendent is not only to keep the track along his section in perfect repair, but to give his personal attention to all matters which can in any way impede the safety or dispatch of the regular trains; and to this ample service, in a great measure, is due the immunity from accident which has characterized the running of the Panama Railroad from its first establishment to the present day. On the opposite shore of the river stands the ancient native town of Gatun, which is composed of forty or fifty huts of cane and palm, and situated on the edge of a broad savanna that extends back to a range of hills a mile or two distant. This place is
worthy of mention as a point where, in the days by-gone, the bongo-loads of California travelers used to stop for refreshment on their way up the river; where "eggs were then sold four for a dollar, and the rent for a hammock was two dollars a night."

From Gatun the course of the road lies along the base of an irregular line of high lands that rise up from the eastern side of the valley of the Rio Chagres, and a few hundred yards brings you to the Rio Gatun, a tributary of the Chagres, which is crossed by an iron truss-girder bridge of ninety-seven feet span. The dense swamp-growth looms up on either side like a wall, while rising out of it, close on the left, are two fine conical peaks, called "Lion" and "Tiger" hills, which attract attention by the regularity of their outlines and the dense and gorgeous forests with which they are covered. These hills received their titles from the immense numbers of howling monkeys which inhabited this district previous to and during the construction of the road, and whose frequent roaring made the night hideous, and were often mistaken by the uninformed for the formidable animals which their cries closely resembled. These, as well as several smaller varieties, still abound in the neighborhood, and their howlings at nightfall are frequently heard, but the progress of improvement has driven them from the immediate vicinity of the road.

Passing the Lion Hill Station, which has a fine cultivated clearing on the high ground behind it, the vegetation becomes less dense, and more decidedly aquatic in its character; large patches of cane-brake, huge tree-ferns, low palms in great variety, and scrubby mangroves, rise out of the dark pools in the swamps by the road-side. Along this section is found that rare variety of the Orchid family, the *Peristera elata*, known as the "Espiritu Santo." Its blossom, of alabaster whiteness, approaches the tulip in form, and
gives forth a powerful perfume not unlike that of the magnolia; but it is neither for its beauty of shape, its purity of color, nor its fragrance that it is chiefly esteemed. Resting within the cup of the flower, so marvelously formed that no human skill, be it never so cunning, could excel the resemblance, lies the prone image of a dove. Its exquisitely moulded pinions hang lifeless from its sides, the head bends gently forward, the tiny bill, tipped with a delicate Carmine, almost touches its snow-white breast, while the expression of the entire image (and it requires no stretch of the imagination to see the expression) seems the very incarnation of meekness and ethereal innocence. No one who has seen it can wonder that the early Spanish Catholic, ever on the alert for some phenomenon upon which to fasten the idea of a miraculous origin, should have bowed down before this matchless flower, and named it "Flor del Espiritu Santo," or "the Flower of the Holy Ghost," nor that the still more superstitious Indian should have accepted the imposing title, and ever after have gazed upon it with awe and devotional reverence, ascribing a peculiar sanctity even to the ground upon which it blossoms, and to the very air which it ladens with its delicious fragrance. It is found most frequently in low and marshy grounds, springing from decayed logs and crevices in the rocks. Some of the most vigorous plants attain a height of six or seven feet; the leaf-stalks are jointed, and throw out broad lanceolate leaves by pairs; the flower-stalks spring from the bulb, and are wholly destitute of leaves, often bearing a cluster of not less than a dozen or fifteen flowers. It is an annual, blooming in July, August, and September, and has in several instances been successfully cultivated in the conservatories of foreign lands. In former times bulbs of the plant could rarely be obtained, and then only with much labor and difficulty; but since their localities have become familiar to the less reverential Anglo-Saxon, great numbers
have been gathered and distributed throughout different parts of the world, though their habits and necessities have been so little appreciated that efforts to bring them to flower usually prove ineffectual; if, however, they are procured in May or June, after the flower-stalk has started, when sufficient appropriate nutriment resides in the bulb to develop the perfect flowers, they can be safely transplanted, and will flower under the ordinary treatment adapted to the bulbous plants of colder climates. The bulbs, dried or growing, may be procured either at Aspinwall or Panama at from two to five dollars per dozen.

The next station is called "Ahorca Lagarto," "to hang the lizard," deriving its name from a landing-place on the Chagres near by; this, again, named from having, years back, been pitched upon as an encampment by a body of government troops, who suspended from a tree their banner, on which was a lizard, the insignia of the Order of Santiago. The land around this station, though low and level, is covered with a noble forest-growth, among which is found the huge cedro-tree, from which the native hollows out his canoe, sometimes of fifteen or twenty tons burthen; its broad, plane-shaped roots extend out on every side like buttresses, and its trunk towers up, without a branch, for a hundred feet, supporting a canopy of foliage often fifty yards in diameter. A short distance from the station, close to the left side of the track, is one called "Stephens's Tree," not less than five or six yards in diameter at its base. A luxuriant growth of vines decorates its trunk, and, winding out upon its branches, hangs down like a thickly-woven curtain to the lesser growth beneath. Its trunk is studded with parasites, and usually fine specimens of the Orchidaceæ may be seen blooming among its foliage. Several varieties of mahogany are also found here, and occasionally the lignum-vitæ-tree; the most of the trees, however, are only known by local names, which can convey
to the traveler but little idea of their character. Along the track may be seen the sensitive plant, with its feathery pink blossoms growing in wild profusion. The wild pine-apple, a species of *Agave*, is also abundant. This plant is similar in form and growth to the cultivated pine-apple, except that the leaves are often eight or ten feet in length, and afford a vegetable fibre which makes excellent cloth; the fruit, which is edible and not unpleasant, is of the most brilliant scarlet, and forms a beautiful contrast with the surrounding foliage. A mile or so farther on the forest becomes less lofty, and the traveler soon passes what may easily be mistaken for the overgrown ruins of some ancient city: walls, watch-towers, tall columns, and Gothic arches are on either hand, and it will be difficult to realize that Nature alone, with a lavish and fantastic hand, has shaped this curious scene out of myriads of *convolvuli*; whole clumps of trees are covered in by them, so that they appear like the remains of huge fortifications; tall stumps of palm look like broken columns overgrown with verdure; and when they lean together, as in several instances is the case, great Gothic arches are formed. So dense is this enshrouding web of creepers that scarce a tree or branch can be recognized through it over a space of several acres, and the whole of this wondrous display is, at certain seasons, decorated with bright blue trumpet-shaped flowers.

Leaving behind this city of verdure, a chain of high and densely-wooded hills on the left is brought into view, and, winding along its base, another station, called "Bujio Soldado," or "Buyo Soldado" ("the Soldier's Home"), is passed. Here opens, on the right, a fine view up the Rio Chagres. A mile farther on is an excellent quarry of freestone alongside the track, from which large quantities of building and ballasting material have been quarried by the Company. A little farther on, upon the edge of the steep river bank, is the site of a cottage, notable as having been the favorite
residence of the late J. L. Stephens, the celebrated author and traveler, who spent much of his later life in developing this great railway enterprise; but little now remains except its ruins, and the stately palm that long ago threw its shadow over his once beautiful garden. From this point beautiful views up and down the river are visible, while across, the high opposing bank stretches back in a broad plateau, covered with low foliage, from among which occasional tall trees shoot up, until it meets a range of distant hills. Continuing your course, with an occasional view of the river, which winds like a great serpent along this tortuous valley, you soon come to the native town of “Bueno Vistita” ("beautiful little view"). This is a collection of thirty or forty rude palm huts, skirting the track, and occupied by the families of native laborers along the road. A few native women, bareheaded, in long, heavily-flounced muslin dresses, off at the shoulder, and usually a naked “picaninny” astride the hip, forms the chief feature of the population, while the balance is made up of dogs, pigs, chickens, and children, in a charming state of affiliation. Very few of the aborigines of the country are found on this portion of the Isthmus, the inhabitants being, for the most part, a mixture of Spaniard and Indian. There are, however, many Africans and half-breeds, descended from the old Spanish slaves of this province, or imported from Cartagena and Jamaica. The former, usually peaceable and industrious, cultivate little patches of land, and occasionally raise a few cattle; but the latter are a restless, turbulent set, requiring a strong hand to keep them in subjection; being, however, hardy and athletic, they have been much employed as laborers on the road. A glance into the huts of these people and at their surroundings will give an idea of the manner of living of the greatest portion of the native inhabitants of the country. The body of the dwelling is composed of bamboo; the roof is thatched with leaves of the
palm; the floor is the bare earth; occasionally there is a loft, which is reached by an upright post, with deep notches cut on either side answering for stairs. Hammocks of vegetable fibre or cotton cloth are the usual beds, which also constitute the favorite lounging-place during the day. Besides these, a rude bench or two, a kettle, half a dozen earthen platters and water-jars, and a few gourds for water, complete the furniture of the native hut. Sun-dried and fresh beef, and pork, eggs, and fowls, are cheap and plenty. Their food, however, is mostly vegetable, the yam and plantain holding the chief place. The bread-fruit is plentiful, and grows spontaneously. Rice is raised, and consumed to a considerable extent; and a large variety of tropical fruits are abundant. Besides the pine-apple, orange, lemon, lime, and banana, which arrive at great perfection here, there
are many kinds of fruit seldom seen out of the tropics, which are delicious and wholesome; the bread-fruit, the avocado or alligator pear, the papaya, the Mamei and star-apples, the chirimoya, the mango, the zapote, the granadilla (fruit of the passion-vine), and many others, growing spontaneously or with the most careless cultivation.

The Spanish language is universally spoken by the natives, greatly corrupted, however, by provincialisms. In disposition the native is usually peaceable and inoffensive. The Roman Catholic religion is universally professed, but their ideas of it, beyond a superstitious appreciation of the power and influence of the priests, and the efficacy of holy relics and tokens, are exceedingly limited.

Squatter sovereignty obtains here on a very liberal scale, each citizen being entitled to claim, occupy, and hold "all that lot, piece, or parcel of land" that can be distinctly seen from any given point thereon, of the unoccupied lands of the government. The Spaniard and half-breed frequently avail themselves of this privilege, carrying on cattle-raising to a considerable extent, besides occasionally producing a little sugar, rice, etc., for market. The general class of natives, however, are gregariously inclined, and seldom covet more than enough for a little hut and garden-patch which supplies the necessities of life.

Passing a couple of miles more of forest, intersected by one or two small tributaries of the Chagres River, you arrive at the Frijoli Station; here, during the dry season, may be seen the gorgeous scarlet passion-flower, as well as the purple variety, in great abundance. Occasionally small gangs of natives are seen engaged in clearing away the recent growths along the track with their machetas. The machete is a sort of hiltless broadsword, from two to three feet in length, heavy, straight, and pointed, with a handle of wood or bone, and is the universal companion of the native of this country; with it he cuts his path through the tangled
forest, clears his little plantation, builds his hut; with it, too, he plants his crops and reaps them; it is usually his only weapon of offense and defense; and from the half-grown boy to the gray-headed patriarch, you seldom find one, waking or sleeping, without his cherished machete. This section is rich in its variety of the birds, beasts, reptiles, and insects peculiar to intertropical America. Here are found frequent colonies of the oriole, or hanging-bird, whose beautifully-woven nests, often two or three feet long, may be seen depending by scores from the trees. Several richly-colored varieties of parrots and toucans, trogons, tangers, humming-birds, etc., abound. Grouse and the crested wild turkey are found on the higher grounds of the interior. The tapir is occasionally found in the river and marshy grounds adjoining. Monkeys in variety, the opossum, the ant-eater, the peccary, or wild hog, the sloth, the deer, bear, cougar, and two or three varieties of the tiger-cat, are native here. Among the many varieties of the lizard tribe which abound is the iguana, which grows to a large size, viz., from three to six feet in length, and is eagerly sought for by the natives for its flesh, which is tender and delicate as a chicken, and also for its eggs. Females of this species are sometimes captured, cut open, the eggs removed, the animal permitted to escape, and the natives aver that after this barbarous proceeding they uniformly recover. The eggs are about the size of a marble, yellow and shriveled, and may be seen hanging in bunches for sale in any native market, and are by no means unpalatable. Land-crabs abound in great numbers, and are esteemed a delicate article of food. The most common variety is of a pale blue color, and as large as half a cocoanut. Stories are told of their rapacity and carnivorous tastes that almost surpass belief. It is said that the largest animals, dead or wounded past resistance, are frequently reduced by them to whitened skeletons in a single night. There are several other smaller varieties, some
of which are beautifully colored. Among the venomous insects, the tarantula, the centipede, and the scorpion are frequently met. Among the troublesome insects are white, red, and black ants, musquitoes, sand-flies, fleas, garapatos, or wood-ticks, and the chigoe, or jigger, which last not only bites, but burrows under the skin, and there deposits its eggs, which, if not speedily removed, will hatch out a troublesome nest of minute worms, producing great inflammatory disturbance in the part. As, however, they are at first very superficial, and inclosed in a little membranous sac, this is easily removed entire with a needle, and no farther trouble ensues; they are fortunately not common here, and seldom annoy any but the barefooted native. Venomous snakes, though occasionally seen, are not common. The boa constrictor is native here, and sometimes is found from twelve to eighteen feet in length; it is, however, exceedingly rare to hear of any serious injury having been done by any of them. The alligator, which is found more or less plentifully in all parts of the Chagres and its tributaries, and the adjacent streams and swamps, frequently attacks and destroys dogs and cattle, and occasional instances have occurred where the natives, imprudently venturing into the waters infested with them, have fallen a prey to their rapacity.

Leaving Frijoli, fine fields of Indian-corn may be seen here and there nestled under the hills; dense groves of palms and superb displays of convolvuli are also found along this section for a couple of miles, when you approach the lofty banks of the Chagres at Barbacoas, and cross the river by a huge wrought-iron bridge six hundred and twenty-five feet in length, eighteen in breadth, and standing forty feet above the surface of the water, and said to be one of the longest and finest iron bridges in the world. After crossing the Chagres at this point, instead of low grounds and virgin forests, a beautiful stretch of meadow-
lands, bounded by high precipitous hills, meets the view; while the river, broad and swift, curves around like a horseshoe through its deep channel on the left and behind, displaying along its banks groups of a gigantic species of branchless ceiba, that breaks the outline of dense palm and cocoa groves.

The cultivation of the lands at this point is said to date back for more than two centuries, and to have been worked originally by the Jesuits. At about half a mile from the bridge the San Pablo Station is passed, and a little farther on a fine quarry of recent volcanic rock; from thence, through occasional cleared and cultivated lands, you pass to the station at Mamei and the native town of Gorgona, noted in the earlier days of Chagres River travel as a place where the wet and jaded traveler was accustomed to worry out the night on a raw hide, exposed to the insects and the rain, and in the morning, if he was fortunate, regale himself on jerked beef and plantains. The road now, leaving the course of the river, passes on through deep clay banks and rocky cuts, presenting little novelty beyond the magnitude of the labor expended upon them in establishing the railway, until, sweeping around a hill, the beautiful meadow-lands of Matachin open to the view. Here, rising in their stateliness, the classic sheaves of the royal palm shed an air of Eastern beauty over the landscape. A native village dots the foreground; on the left the waters of the Chagres, broadened at this point by the Rio Obispo (its greatest tributary), is seen through the ceiba groves that skirt its banks, while on the right and in front the scene is bounded by a group of conical hills covered with short grass and studded with palms. The completion of the Panama Railroad in 1855 was here celebrated with great ceremony and rejoicing, and the corner-stone of a monument to its originators and constructors was erected upon the crest of the highest and most beautiful of these hills.
The railway has several side branches at Matachin, and is the usual point of meeting for the trains from either terminus. As there is usually a little delay on such occasions, the natives take advantage of it to traffic with the passengers. Almost every hut displays something for sale: cakes, “dulces,” or native candy, and the various fruits of the region. Here the oranges are unusually fine. There is also a saloon, kept by a native, where very good English beer, French claret, crackers and cheese, etc., may be obtained. From Matachin, passing along the base of “Monument Hill,” the narrow valley of the Rio Obispo is entered, and its waters are crossed by stout iron bridges twice within the distance of a mile; then you pass the Obispo Station, and continue along the course of the Obispo River, over a fine rolling and luxuriant woodland, where the delicious wild mango, the zapote, the nispero, and the guava are fre-
quently seen; also occasional native huts, surrounded by cultivated fields. From the station at Obispo the grade is ascending, with a maximum of sixty feet to the mile. Continuing to rise for about three miles, you pass the "Empire Station," and reach the "Summit," or highest elevation of the railway above the mean level of the Atlantic and Pacific Oceans. Here is a little native settlement called "Culebra" ("the Snake"), noted as having been the terminus of the road in 1854. Then, passengers arriving at this place by the cars from the Atlantic shore were compelled to mount upon mules, and flounder on through heavy sloughs and rapid streams, along the borders of deep ravines and over precipitous mountains, exposed to drenching rains in the wet season, and a broiling sun in the dry, not unfrequently attacked and plundered by banditti, with which the road was then infested, until, after a whole day's labor and peril, they arrived at Panama, only twelve miles distant. "Culebra" at that time was a thrifty place, boasting of two or three hotels, imported ready-made from the United States, into which often more than a thousand men, women, and children were promiscuously stowed for a night. There were also twenty or thirty native huts, about twelve feet square, each of which was considered of ample dimensions to house a dozen wayworn travelers, only too thankful to find a spot of dry ground upon which to spread their blankets; but its glory has departed, and scarce a vestige remains to tell of its former estate. From Culebra the road passes through a deep clay cutting from twenty to forty feet in depth, and nearly a third of a mile in length. At this point commences the Pacific slope of the road, with a descending grade of sixty feet to the mile.

The surrounding scenery now becomes bold and picturesque in the highest degree. Lofty conical mountains rise on every side from among the irregular ridges that form the upper boundaries of the Rio Grande. The course of
the road now lies across steep rocky spurs and deep ravines between them and along their precipitous sides. High embankments and heavy cuttings are frequent. Here, also, the vegetation is profuse and gorgeous; tall forests cover the whole landscape as far as the eye can reach. At about a mile from the summit the road passes along the side of a huge basaltic cliff, whose great crystals, nearly a foot in diameter, and from eight to twelve feet in length, lie at an angle of about forty degrees. In the earlier days of the road this cliff presented a lofty, broken, and jagged appearance, that seemed almost to overhang and threaten the safety of those passing along the track below. These great crystals of basalt, firm and compact, but easily dislodged, have been so extensively used in the ballasting of the road, etc., along this section, that the once grand and picturesque appearance of the cliff is almost entirely destroyed; enough, however, remains to strike the beholder with admiring wonder, on contemplating this curious formation, at the still visible regularity and beauty of its crystallization, and with awe when he reflects upon the gigantic internal forces that have resulted in its upheaval. It is one of the few known examples in the world where the natural perpendicular which basaltic formations always assume (so beautifully seen in the Fingal's Cave at Staffa, and along the "Palisades" of the Hudson) has been so rent and displaced. But this whole region gives unmistakable evidence that great and comparatively recent volcanic forces have been instrumental in its formation. There is no continuity of the mountain ranges; conical peaks rise up on every side; perfect marine shells and coral are found on their very summits, and the strata of the rocks exposed by the cuttings of the railroad are all volcanic. The Rio Grande at this point is a narrow and noisy torrent, winding along through the dense forests far below the track; the caoba, the cedro, and the malvicino trees rise up like lords of the land over the end-
PARAISO STATION.
less growths of palm and the innumerable varieties of other tropical woods that interweave below them. After nearly three miles of this, the beautiful undulating valley of "Paraiso," or "Paradise," is reached, surrounded by high conical hills, where Nature, in wild profusion, seems to have expended her choicest wealth. From Paraiso the road continues on over ravines, and curves around the base of frequent conical mountains, gradually descending until the low lands and swamps of the valley of the Rio Grande are passed, when looming up in the distance is seen the high, bald head of Mount Ancon, whose southern foot is washed by the waters of the Pacific Ocean. On the left rises "Cerro de los Buccaneros" ("the Hill of the Buccaneers"), from whose summit the pirate Morgan, on his marauding march across the Isthmus in 1670, had his first view of ancient Panama, and where he encamped on the night previous to his attack and pillage of that renowned city. Crossing by bridges of iron the San Pedro Miguel and the Caimitillo (narrow tide-water tributaries of the Rio Grande), the Rio Grande Station is passed. From thence, through alternate swamp and cultivated savanna, the muddy bed of the Rio Cardenas is crossed; when, leaving the Rio Grande to the eastward, a fine stretch of undulating country around the base of Mount Ancon is brought into view, enlivened by native huts and cultivated fields. About a mile farther on may be seen the long metallic roofs of the railroad buildings of the Pacific terminus peeping out from a grove of cocoa-trees, and a little beyond them, and to the right, the Cathedral towers, the high-tiled roofs and dilapidated fortifications of the city of Panama, while through the intervening foliage occasional glimpses of the "ever peaceful ocean" assure the traveler that the transit of the Isthmus is nearly accomplished, and a few minutes more brings him safely into the spacious passenger depot of the Railroad Company at Panama.
Passing through the depot, and from thence directly onward to the sandy beach of the Bay of Panama, about fifty yards distant, a beautiful panorama opens upon the view. On the left are the commodious warehouses and the long, covered, iron-piled wharf of the Railroad Company, alongside of which the small steamers and tugs lie to take on or discharge passengers and freight for the larger vessels anchored in the bay. Beyond the wharf a white sandy beach sweeps around a quarter circle of a couple of miles, skirted by tangled masses of foliage interspersed with groups of cocoa-trees. A ridge of high and broken, but heavily wooded land rises up behind, sloping down to the eastward toward the peaceful ocean, that stretches out to the horizon before you. On the right, the city, high-walled and turret-ed, stands boldly out into the ocean, like Balboa of old, as if still claiming dominion over the limitless expanse; no longer bristling with defiant cannon or decked with the flaunting colors of the Conquistador, but deserted, crumbling, and grass-grown, "mellowed into harmony by time.” Within the walls a mass of high-tiled roofs, with here and there a dilapidated tower or pearl-shelled spire, combine to present a scene more beautiful than is often beheld. The city of Panamá is peculiarly rich in historical associations connected with the early days of the Spanish rule in this country, and is full of the decayed monuments of its ancient splendor.

Panama is situated in lat. 8° 56' N., and long. 79° 31' 2" W., upon a rocky peninsula that stretches out from the base of the high volcanic hill Ancon, and projects a quarter of a mile into the sea. It has at present a population of about 10,000 souls. Its roadstead is one of the finest in the world. At about two and a half miles northwest of the city are situated the beautiful islands of Perico, Flamen-co, and Islïñao, the joint property of the Panama Railroad and the Pacific Mail Steam-ship Companies, and are occu-
CITY OF PANAMA.
pied by them as the rendezvous of the California and Central American lines of steam-ships. These islands are well wooded, and abound in fine springs of water. Flamenco, the largest of the three (about half a mile in length by a third in breadth), has on its southern side a fine beach, which, as the tides here rise and fall from twelve to twenty-one feet, gives admirable facilities for the repairs of the shipping. Excellent and capacious anchorage exists here. The city of Panama previously to 1744 (when the trade between Europe and Western America first began to be carried on around Cape Horn) was the principal entrepôt of trade on the Pacific coast. From that period, however, with the decline in the Spanish possessions in America, it became reduced in commercial importance almost to a nonentity, and so remained until the past few years. The establishment of the South Coast, the California, the Central American steam-ship lines, and that by which all the business of these lines is carried on, the Panama Railroad, have combined to render it again a place of considerable importance. At Panama there is a first-rate hotel, the Aspinwall House, probably the best on the Isthmus—charge three dollars per day.

The site of the "City of Panama the Ancient" (which was destroyed by the buccaneer Sir Henry Morgan in 1661) is located about six miles southeast of the present city, and is easily reached by water or land. If time permits, the traveler should by all means visit this spot. The ruins of its ancient fortifications, towers, churches, and public buildings are worthy of the attention of all interested in the early history of Central America, and will amply repay the antiquarian or the lover of the picturesque and beautiful the trouble of a visit to this most interesting of all the remains of Spanish greatness in this region. In the Appendices following will be found, first, all information ap-
pertaining to the regulations of the trains on the Panama Railroad, the rates of passage and of the transportation of every kind of freight, and all general information in regard to the regulations of the road which will be likely to be of service to the traveler or the man of business. Also an account of all its connections by sail and steam in the Atlantic and Pacific Oceans, their business regulations, and such information in regard to them and the countries and the places they connect with the road, as shall furnish a reliable source of reference to all interested, displaying, as far as is practicable in a small compass, the resources of each country and place, and affording a means of ascertaining the expenses attendant upon either a visit to those regions, or of doing business with them in the most economical and intelligent manner.
REGULATIONS OF THE PANAMA RAILROAD.

The regular trains are dispatched daily, Sundays excepted, from Aspinwall to Panama and from Panama to Aspinwall, as per time-table annexed:

<table>
<thead>
<tr>
<th>TO PANAMA.</th>
<th>STATIONS.</th>
<th>TO ASPINWALL.</th>
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<tbody>
<tr>
<td>8.15 A.M.</td>
<td>2.00 P.M.</td>
<td>Aspinwall</td>
</tr>
<tr>
<td>8.50 &quot;</td>
<td>2.35 &quot;</td>
<td>7½ &quot;</td>
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<td>9.38 &quot;</td>
<td>3.20 &quot;</td>
<td>16 &quot;</td>
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<tr>
<td>10.00 &quot;</td>
<td>3.45 &quot;</td>
<td>22½ &quot;</td>
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<tr>
<td>10.40 &quot;</td>
<td>4.25 &quot;</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>11.20 &quot;</td>
<td>5.05 &quot;</td>
<td>37 &quot;</td>
</tr>
<tr>
<td>Arrive.</td>
<td>Leave.</td>
<td>47½ &quot;</td>
</tr>
<tr>
<td>12.15 P.M.</td>
<td>6.00 &quot;</td>
<td>Panama.</td>
</tr>
</tbody>
</table>

Besides these regular trains, special trains are always employed whenever the service can not be adequately performed by the regular trains. There are often as many as five and six in number daily for weeks together.

STEAMER TRAINS.—On the arrival of passenger steam-ships at Aspinwall, special trains are dispatched at any hour, so soon as the passengers are landed, provided that the state of the tide at Panama is such that they can be embarked for the connecting steam-ship immediately on the arrival of the trains. This arrangement has been made solely with a view of affording to the passenger the greatest degree of comfort and convenience consistent with dispatch. To those unacquainted with the cause, it may sometimes appear that time is unnecessarily lost; the Company only consults the interest of the passenger in this respect, and no detention is allowed beyond what is absolutely necessary. On the arrival of passenger steam-ships at Panama, the trains are dispatched for Aspinwall immediately on the landing of the passengers, who here step from the steamer directly into the cars without detention.

TARIFF OF RATES FOR PASSAGE AND FREIGHT.

Price of passage through, $25. Children under 12 years, half price; under 6 years, quarter do.

Special Rates of Freight.

Acids—Muriatic, Sulphuric, and Nitric..........................5 cts. per lb.
Agricultural Implements...........................................25 cts. per foot.
Baggage—passengers' (50 lbs. free)..............................10 cts. per lb.
Bees...........................................................................$1.50 per foot.
Carriages......................................................................20 cts. per cubic foot.
Cartridges, with balls, ordinary trains..........................3 cts. per lb.
Cattle, at owners' risk, ordinary trains, over eight.................$5 each.

under eight.........................................................$7 each.

steamer trains, owners' risk, special agreement..................$70 each.
Coal...........................................................................$5 per ton of 2240 lbs.
Cocoanuts......................................................................$1 per hundred.
Coke...........................................................................$7 per ton of 2240 lbs.
Copper Ore in bags..................................................$3 of one cent per lb.
Demijohns (empty)....................................................25 cts. per foot.
Dye-woods.................................................................$7 per ton of 2240 lbs.
Express freight, by steamer trains..........................$1.50 per cubic foot.
Furniture, such as tables, chairs, bureaus, bedsteads, etc. 25 cts. per cubic foot.
Gold, in dust, coined, or manufactured..........................1/2 per cent. on value.
Gunpowder, separate cars...........................................5 cts. per lb.
Hides...........................................................................15 cts. each.
Horses, at owners’ risk, special agreement, including feed, stalls, and loading by steamer trains..............................$100 each.
Jewelry...........................................................................1/2 per cent. on value.
Lumber—
- White Pine...............................................................$10 per M.
- Yellow Pine...............................................................$12 per M.
- Oak.............................................................................$15 per M.
- Cedar and Mahogany...................................................$15 per M.
Mules, at owners’ risk, special agreement, including feed, stalls, and loading by steamer trains...........................$100.

Classification of Freight.
First class freight, comprising merchandise, in boxes and bales, not otherwise enumerated..........................50 cts. per cubic foot.
Second class freight, as per description annexed..............................1/2 cts. per lb.

All articles not specially named to be assimilated.

FIRST CLASS—50 CENTS PER CUBIC FOOT.

Bonnets, Books, Boots.
Caps, Cards (playing), Cassia lignea, Cigars, Cinnamon, Clothing.
Drugs, Dry Goods, not elsewhere enumerated.
Eau de Cologne, Essences, Essential Oils.
Feathers, Fire-works, Flannel; Furs, not otherwise enumerated.
Glass Shades and Looking-glasses, at owners’ risk; Glassware, fine, stained, and plate, at owners’ risk; Gloves.
Harness; Hats, fur or felt, and of Guayaquil or Panama straw; Hosiery.
Light goods, not elsewhere specified.
Matches, Medicines, Millinery, Musical Instruments.
Oil-cloth, Organs.
Paintings and Engravings, Paper Hangings, Paper, writing and printing;
Peltry, not elsewhere specified; Percussion Caps, Perfumery, Pianos, Porcelain and China-ware, fine.
Saddlery, Shoes, Silks, Stationery; Statuary, at owners’ risk.
Toys and Fancy Goods.
SECOND CLASS—1½ CENTS PER POUND.

Almonds, Anchovies, Aniseed.
Balsams, Baskets, Beeswax, Britannia-ware.
Carpeting; Chandeliers, at owners' risk; Chocolate, Clocks, Cochineal, Confectionery, Corks and Corkwood.
Eggs.
Fire-arms, Fruits (dried).
German Silver-ware, Gin, Groceries, not elsewhere specified.
Indigo.
Lamps (ornamental).
Nuts, not elsewhere specified.
Picture-frames, Plated Goods, Platform Scales, Preserved Meats and Fruits.
Sardines, Soap (fancy), Straw for manufacturing.
Tea, Tobacco (manufactured), Tortoise-shell, Treenails, Trees and Plants in mats.
Varnish, in tins; Veneers.
Wooden-ware.

THIRD CLASS—1 CENT PER POUND.

Balsam of Copaivi, Bark, Blankets, Brooms, Brushes.
Candles, Cutlery.
Domestics, unbleached, of cotton, in bales.
Gravestones.
Hay in compressed bales.
Leather, dressed.
Liquors.
Nails, copper and brass.
Oils (toward Pacific), Ornaments of Stone, Clay, Marble, Alabaster.
Paints, dry and in oil.
Sarsaparilla, Spirits of Turpentine.
Tacks, Tin-ware; Tobacco, manufactured; Tubing, copper and brass; Type.
Whalebone; Wines in boxes or baskets; Wire, copper and brass; Wool of alpaca or vicuna.

FOURTH CLASS—¾ CENT PER POUND.

Ale.
Bacon in casks; Beef, Blacking, Borax, Bottles (empty), Bread, Butter.
Castings of copper, brass, or bronze; Cheese, Cider, Copper Sheathing and Spikes, Copperas; Cotton in compressed bales; Cotton Waste, Crackers; Crockery, not elsewhere specified; Common Wine in wood.
Deer-skins in bales.
Earthen-ware in casks or crates.
Felt (for sheathing), Fish, Flour.
Grindstones, Glassware (coarse), Window-glass, etc.; Goat-skins in bales.
Hams in casks; Hardware; Hats, coarse country straw or palm leaf; Hemp, unmanufactured; Herrings, Hollow-ware (iron), Hoops of wood or iron.
India-rubber.
Lard.
Manufactures of Hemp, such as Canvas, Osnaburges, Burlaps, and Bagging.
Machetas, Machinery, Mats, Matting, Meal, Millstones, Molasses.
Oakum, Oats, Orchilla Weed.
Pickles, Pork (salt), Porter, Potatoes.
Rice, Rope.
Safes (iron), Sago, Salt, Screws, Seeds, Sheep-skins in bales, Shot (in bags), Shovels, Sirups, Soap (common), Soda-water, Spades, Steel in bars and bundles, Stoves, Sugar-mills, -moulds, and -pans.

**FIFTH CLASS—½ CENT PER POUND.**


**SIXTH CLASS—¼ CENT PER POUND.**


**Special Conditions.**

Freight to be charged on the gross weight of packages, and to be paid in advance or before delivery of goods. All claims for loss or damage to be presented within five days, otherwise they will not be paid. The Company will not be responsible for articles of extra value, beyond $100 per package, unless declared and way-billed accordingly. No package, however small, will be transported for less than one dollar. The Company will not be responsible for the breakage or loss of contents of any demijohn or jug. Storage will be charged on all goods remaining in the Company's storehouses, after twenty-four hours, unless by special agreement.

**Joseph F. Joy, Secretary.**

N.B.—Goods shipped for California under through bills of lading must be corded and sealed at the New York Custom-house, or they will be liable to the payment of duties in San Francisco.

**RATES OF COINAGE TO BE RECEIVED AND PAID OUT BY THE PANAMA RAILROAD COMPANY.**

**Gold Coin.**

<table>
<thead>
<tr>
<th>Coin Type</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish doubloons</td>
<td>$16.00</td>
</tr>
<tr>
<td>Mexican doubloons</td>
<td>$15.50</td>
</tr>
<tr>
<td>Peruvian doubloons</td>
<td>$15.50</td>
</tr>
<tr>
<td>Ecuadorian doubloons</td>
<td>$15.50</td>
</tr>
<tr>
<td>Bolivian doubloons</td>
<td>$15.50</td>
</tr>
<tr>
<td>New Granadian doubloons</td>
<td>$14.00</td>
</tr>
<tr>
<td>New Granadian (old)</td>
<td>$15.50</td>
</tr>
<tr>
<td>Costa Rican and Central American doubloons</td>
<td>$13.60</td>
</tr>
</tbody>
</table>

Fractional parts in proportion.
Gold 20 franc pieces .......... $3 80 | Ten-guilder pieces .......... $3 80
Gold 10 franc pieces .......... 1 90 Condors, New Granadian ...... 8 50
English sovereigns .......... 4 85 Condors, Chilian ............ 8 00
English half sovereigns ....... 2 42½

Fractional parts in proportion.

United States gold and silver at par.

**Silver Coin.**

Spanish dollars, $1 00; half dollars, 40 cents; quarter dollars, 20 cents.
Mexican dollars, $1 00; half dollars, 40 cents; quarter dollars, 20 cents.

Fractional parts in proportion.

New Granadian dollars of 5 franc value ...................................... $0 95
French 5 franc pieces ........................................................... 0 95

Fractional parts as heretofore.

Peruvian and Chilian dollars (new coinage) .................................. 0 30
Bolivian dollars (old coinage) .................................................. 1 00
Bolivian half dollars and quarters not received.

N.B.—Smooth coin not received.

**WHARFAGE, LIGHTERAGE, AND HARBOR REGULATIONS.**

A pier, 450 feet in length, has been built in the Bay of Panama, to the end of which freight cars are run, to receive cargoes from lighters or vessels lying alongside, and deliver the same on board of vessels at Aspinwall. Vessels of from 200 to 300 tons can lie alongside the pier with safety, grounding in the mud at low water.

Iron launches of the capacity of 100 tons each have been built by the Company to load and discharge vessels whose draught of water prevents them from coming to the pier. These launches are towed to and from the pier by a powerful steam-tug. *The charge for lighterage is one and a half dollars per ton.*

At Aspinwall vessels load and discharge at the wharves. A fire-proof stone warehouse, 300 feet long by 85 feet wide, has been built for the use of the Company.

**Regulations in regard to Freight.**

1. All freight intended for the morning train must be delivered at the freight-houses of the Company before 5 P.M. on the day previous. The hours for receiving and delivering freight are from 7 to 9 A.M., from 10 A.M. until 2 P.M., and from 3 until 5 P.M.

2. No article will be transported over the road unless it is legibly and properly directed. Packages in bad order may be declined by the freight agent until properly repaired; or, if received in bad order, it will be so noted on the receipt given by the freight agent.

3. Goods will not be received for transportation without a freighting order from the shipper unless by special agreement. Shippers will deliver with their goods a bill of items, signed by themselves or agents, forms for which can be obtained on application to the freight agents. The freighting orders will be compared with the goods by the freight agent, and if found correct, a receipt will be given by him for the same, subject to the rules of the Company.

4. Freight deposited outside, or under the Company’s sheds, remains at owners’ risk until delivered into cars or freight-house, unless otherwise expressly agreed to; and freight agents will not receipt for goods unless so delivered.

5. Goods for transportation over the road will be received in their turn,
according to priority of delivery, and will remain at owners' risk until examined, compared, and receipted for. Goods for the Company's vessels will also be shipped in order of priority, heavy goods excepted, a sufficient quantity of which may first be put on board to make proper stowage.

6. No article will be delivered from the Company's freight-houses without a receipt or order from the consignee or owner. Draymen and porters calling for goods must be furnished with an order by the consignee, upon whom their receipts will be binding.

7. The Company will not be responsible for articles of extra value beyond $10 per package, unless declared and way-billed accordingly.

8. Freight will be charged on the gross weight of packages; and no package, however small, will be transported over the road for less than one dollar.

9. The Company will not be responsible for breakage or leakage of any description, the decay of any fruits or vegetables, the wastage of ice, or death of poultry or animals, from delay or detention on the road.

10. All payments for transportation will be made at the freight offices in United States currency or its equivalent, at the rates established by the Company (see pages 142, 143).

11. The terms for transportation over the road are prepayment, or cash on delivery of the goods, which may be detained by the freight agent until payment is made.

12. Storage will be charged on all goods remaining in the Company's store-houses for a longer period than twenty-four hours, except under special arrangements, or when they are under through bills of lading authorized by the Company.

Rates of Storage.

The following are the rates of storage per week:

<table>
<thead>
<tr>
<th>Barrels</th>
<th>10 cts. each.</th>
<th>Boxes</th>
<th>10 cts. per bbl. bulk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half do.</td>
<td>5 &quot; &quot;</td>
<td>Hides</td>
<td>1 ct. each.</td>
</tr>
<tr>
<td>Tobacco</td>
<td>10 &quot; per bale.</td>
<td>Corn</td>
<td>5 cts. per sack.</td>
</tr>
<tr>
<td>Hats</td>
<td>20 &quot; &quot; &quot;</td>
<td>Demijohns</td>
<td>20 &quot; each.</td>
</tr>
</tbody>
</table>

All articles not above enumerated to be assimilated and charged in proportion.

13. Claims for loss or damage must be made within five days thereafter, and will be settled by the superintendent on application to him through the freight agents. A bill of the cost of articles lost will be required.

14. When goods are forwarded from Panama to Aspinwall for shipment in other than the lines of vessels above named, the service of the Railroad Company ceases with their delivery at the freight-house in Aspinwall, as in the case of local traffic.

The same principles apply also to the shipment of goods to ports on the Pacific, passing over the road from Aspinwall to Panama.

15. When goods are forwarded from Pacific ports for shipment at Aspinwall by vessels not running in connection with the road, it is necessary for shippers to make arrangements for the payment of freight, transportation, and shipping expenses.

16. Cargo arriving by the Central American steamers, unless under through bills of lading, must be received by the consignees on the wharf immediately after arrival; otherwise it will be left there at owners' risk; or, if deposited in the Company's store-houses, it will be at their risk and expense. Cargo for the Central American steamers must be delivered at the freight-house for shipment, otherwise the Company will not be responsible for damage from rain or other cause.

17. Consignees of goods at Aspinwall by the Company's line of sailing vessels will please attend and receive them when discharged, with as little de-
lay as possible, the Company not being liable for any loss or damage after delivery from ship's tackles.

18. When the goods of residents or agents at Panama arrive at Aspinwall from abroad for transportation over the road, and are consigned to them at Aspinwall, they must be delivered to the Company at their freight-house in the same manner and form as is usual with local traffic. This also applies to goods consigned to the Railroad Company at Aspinwall not shipped under through bills of lading.

**RATES OF WHARFAGE AND LIGHT MONEY.**

**Wharfage.**

<table>
<thead>
<tr>
<th>Vessels under 50 tons</th>
<th>$0.75 per day.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot; 50 &quot;</td>
<td>1.50 &quot;</td>
</tr>
<tr>
<td>&quot; 100 &quot;</td>
<td>2.25 &quot;</td>
</tr>
<tr>
<td>&quot; 150 &quot;</td>
<td>2.50 &quot;</td>
</tr>
<tr>
<td>&quot; 200 &quot;</td>
<td>3.00 &quot;</td>
</tr>
<tr>
<td>&quot; 250 &quot;</td>
<td>3.25 &quot;</td>
</tr>
<tr>
<td>&quot; 300 &quot;</td>
<td>3.50 &quot;</td>
</tr>
<tr>
<td>&quot; 350 &quot;</td>
<td>3.75 &quot;</td>
</tr>
</tbody>
</table>

And 25 cents per day for each additional 50 tons.

**Light Money.**

<table>
<thead>
<tr>
<th>Vessels under 100 tons</th>
<th>$1 each.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot; 100 &quot;</td>
<td>3 &quot;</td>
</tr>
<tr>
<td>&quot; 200 &quot;</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>&quot; 300 &quot;</td>
<td>7 &quot;</td>
</tr>
</tbody>
</table>

The above rates are calculated upon tonnage by American measurement, and payable in American currency or its equivalent.

**HARBOUR REGULATIONS OF THE PORT OF ASPINWALL, N. G., ESTABLISHED BY THE PANAMA RAILROAD COMPANY.**

1. All vessels entering the harbor of Aspinwall will be charged light fees, and all vessels coming to wharf will be charged wharfage, in proportion to tonnage, as per printed rates of the Panama Railroad Company annexed.

2. Vessels using the donkey engines or mules of the Company (which can be had when not otherwise employed) will be charged as follows:

   Use of engine for cargo, per day...\$10.00
   " " " coal, " ton...................... 15
   " mule " " " ................................ 15

3. No vessel will be allowed to hang at the outer buoys, as they are to be used solely for convenience in hauling in and out and making sail.

4. Vessels entering the harbor will anchor outside of the line of buoys, where they will be visited by the harbor-master, who will assign them their berths. Regular lines of steamers or sailing vessels which have specified berths are exempt from the above rule. All vessels, after discharging, will also anchor outside the buoys.

5. No iron chains are allowed to be used in making fast to the wharves, unless by express permission from the harbor-master, and vessels will be held liable for any damage done to the wharves by unnecessary chafing, neglect, etc.

6. No coal-ashes, offal, or rubbish are to be thrown overboard by vessels at anchor in the harbor or at the wharves.

7. Masters of vessels will be governed by the directions of the harbor-master in changing berths, hauling to buoys, anchoring in any part of the harbor, etc., and are requested to notify him when wishing to haul, and also to give him at least six hours' notice before leaving port.

GEO. M. TOTTEN, Chief Engineer.
Through bills of lading are issued for merchandise from Europe and the Atlantic United States to Panama, San Francisco, Oregon, Washington Territory, etc., and also to the principal ports of South and Central America.

Parties in Europe desiring to ship goods to Panama or ports on the Pacific, under through bills of lading, will please apply to John Hamilton, at No. 6 Castle Street, Liverpool; in the United States to Mr. Joseph F. Joy, office of the Panama Railroad, 88 Wall Street, New York; Wheatley, Starr, and Company, 156 Cheapside, London.

All freight to be prepaid.

No bill of lading signed for less than five dollars.

A Commercial and Shipping Agency has been established by the Company at Panama, under the management of Mr. Wm. Nelson, who will receive and forward merchandise or produce consigned to the Company for transportation over the road and shipment at Aspinwall or Panama, in accordance with shippers' instructions, for which services no commissions will be charged, and only such expenses as may actually be paid, thus obviating the necessity of appointing agents on the Isthmus.

Merchandise and produce consigned to the Company for transportation and shipment should be addressed to the superintendent of the road, or to the commercial agent of the Company at Panama, Mr. William Nelson. Goods so consigned will be promptly dispatched.

The average freight from New York to Liverpool by sailing vessels is twenty-five shillings sterling per ton; the average passage about twenty days. By screw steamers the freight is higher, but the passage only fifteen days.

Besides the steamers of the Royal Mail Steam Packet Company, which make regular semi-monthly trips between Southampton and Aspinwall, a screw steam-ship line has commenced running between the latter port and Liverpool. Lines of sailing vessels have also been established to run from London, Liverpool and Bordeaux to Aspinwall. These several lines furnish frequent and reliable opportunities to the merchants of the Southwest coast and Central America to obtain their supplies of European manufactured and other goods.

Goods sent by the Company's line of sailing vessels, and consigned to the secretary in New York for reshipment to Europe or elsewhere, will be forwarded free of commissions or other charges than those actually paid.

Further information in regard to the number and character of the vessels of the various lines connecting with the Panama Railroad, agencies, ports of entry, prices of passage and freight, dates of sailing, etc., etc., will be found in the following Appendix.

NEW YORK TO ACAPULCO AND MANZANILLA.

The Panama Railroad Company issue through Bills of Lading (by sailing vessels to Aspinwall) for merchandise to the above ports, at the following rates: Dry-goods and first class, $58 per ton of 40 feet; unbleached domestic and coarse goods assimilating, $52 per ton of 40 feet; machinery, $52 per ton of 40 feet or 2000 lbs.; hardware, $50 per ton of 2000 lbs.—with primage 5 per cent.

Freight payable in American gold. Consignees to pay all light-house fees and port charges.

ACAPULCO AND MANZANILLA TO NEW YORK.

The Pacific Mail Steam-ship Company issue through Bills of Lading from the above ports to New York (by sailing vessels from Aspinwall) at the following rates: Hides, dry, 68 cents each; cotton, press-packed, 3 cents per lb.; treasure, 2$ per cent.—with primage 5 per cent.
Officers and Directors of the Panama Railroad.

DAVID HOADLEY, President.
JOSEPH F. JOY, Secretary.
GEORGE M. TOTTEN, Chief Engineer.
HENRY SMITH, Treasurer.
WM. PARKER, General Superintendent.

DIRECTORS.

WILLIAM H. ASPINWALL, HENRY CHAUNCEY,
EDWIN BARTLETT, HOWARD POTTER,
GOVERNEUR KEMBLE, SAMUEL W. COMSTOCK,
WILLIAM WHITENIGHT Jr., AUGUST BELMONT,
EDWARD CUNARD, JOSEPH W. ALSOP,
THEODORE W. RILEY, FREDERICK G. FOSTER,

DAVID HOADLEY.
STEAM-SHIP LINES CONNECTING WITH THE PANAMA RAILROAD.

1st. The Pacific Mail Steam-ship Company, running between New York, the Isthmus of Panama, California, Japan, and China (page 149).

2d. The General Transatlantic Company (Compagnie Générale Transatlantique), running between St. Nazaire, France, the West Indies, Mexico, and Aspinwall (page 169).

3d. The West India and Pacific Steam-ship Company (limited), running between Liverpool, England, the West Indies, the Western Coast of South and Central America, and Aspinwall (page 180).

4th. The Royal Mail Steam Packet Company, running twice a month from Southampton (England) to and from the West-India Islands, British Guiana, Vera Cruz, Tampico, Greytown, Santa Martha, Carthagena, and Aspinwall; and there, by means of the Panama Railroad, connecting with lines of steamers from Panama to Ports on the West Coast of South America as far as Porto Montt, in Chili, to Acapulco, Manzanillo, San Francisco, Oregon, Vancouver's Island, and British Columbia, to Central American (Pacific) Ports, and once a month to New Zealand and Australia (page 188).

5th. The Panama, New Zealand, and Australian Royal Mail Company, limited (page 205).


7th. The Panama Railroad Company's Central American Line of Steamships, running between Panama, Nicaragua, Costa Rica, Salvador, and Guatemala (page 222).

8th. The California, Oregon, and Mexico Company's Line of Steamships, running between San Francisco, California, and Mexico, and between San Francisco and Portland, Oregon, and the Island of Vancouver (page 225).

LINES OF SAILING VESSELS.

1st. The Bremen and Aspinwall Line, between Bremen and Aspinwall.

2d. The Bordeaux and Aspinwall Line, between Bordeaux and Aspinwall.

3d. The Panama Railroad Company's Line between Liverpool and Aspinwall.

4th. The Panama Railroad Company's Line between New York and Aspinwall.