



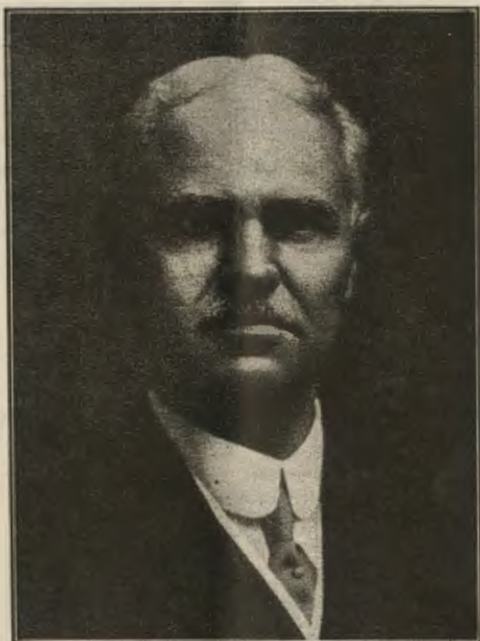
# Panama-Canal Extravaganza

PANAMA-CALIFORNIA  
INTERNATIONAL EXPOSITION

## SOUVENIR

1916

PRICE — TWENTY-FIVE CENTS



**MAJ. GEN. GOETHALS**  
The man that built the Canal

## *Introduction*

*During the past year many questions were asked about the Panama Canal, and frequent calls were made for a history of it. Until now there has been no brief description or history to be had. To become acquainted with it one has been compelled to search many sources of information. This pamphlet has been prepared to answer these inquiries and meet this demand. Though brief, it will be found to contain all the principal facts sought by the public and previously to be found only by much research.*

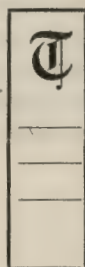
## *The Panama Extravaganza*

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PUBLISHERS  
EAST SAN DIEGO





HE COMPLETION of the Panama Canal is the realization of a world dream of over four hundred years and marks the greatest single achievement for commercial convenience and the most efficient monument of this progressive generation.



GATUN LOCKS... ATLANTIC SIDE ~

## *The Story of the Canal*

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Balboa, driven from home by his creditors, landed on the Isthmus of Panama in 1510, where he married the daughter of an Indian chief. Rumors reached him there of a great Western ocean, and in 1513 he organized expedition and set out to find it. After twenty-three days of travel over what is known as Calendonia canal route, he discovered and took possession of the Pacific ocean in the name of the king of Spain.

Old Panama on the Pacific side, which afterwards became known as the richest city in the world of its time, was settled in 1517, and the highways from old Panama to Nombre de Dios on the Atlantic coast, and from old Panama to Porto Bello, which were soon afterwards built, became the first regularly traveled routes across the Isthmus. These highways paved with stone furnished ample facilities for the pack trains which traveled over them for many years, and today some parts of these roads are in good condition and can be traced for miles through the tropical vegetation in which they remain hidden and unused.

It was in these early days that the idea of a canal took birth, even while the existence of a natural strait was in doubt.

A Spanish engineer named Saavedra, one of Balboa's followers on the Isthmus, is reported to have been its first advocate, in 1517. After study-

ing the subject for years, he was about to forward his plans in 1529 to Charles V, king of Spain, when his death occurred. Surveys of the Isthmus with this object in view were ordered, but the work was reported to be impracticable, and with the tools available in those days this was certainly true. Philip II, son and successor to Charles V, in 1567 sent an engineer to survey the Nicaragua route, who likewise submitted a report unfavorable to the success of the work. In his perplexity Phillip is said to have laid the matter before the Dominican friars, who desired to obey the king's orders, but being unable to report intelligently on such a problem, after searching the Bible quoted the following verse as having direct reference to the Isthmian canal: "What God hath joined together, let no man put asunder." This was sufficient for King Phillip, who laid the canal project on the shelf, where it remained through the reigns of his various successors for two centuries after his death.

All the enthusiasm of the early days in regard to the canal idea was unavailing for lack of proper tools and sufficient capital. Moreover, the old stone highways filled requirements very well. The Atlantic terminus of the road from old Panama had been changed from Nombre de Dios to Porto Bello about 1597.

This route was followed by Morgan in his raid, which resulted in the destruction of old Panama in 1671, two years after he had sacked Porto Bello.

England entered the lists with Lord Nelson and Baron Von Humboldt as its representatives, who made researches and reports on the Nicaragua and other canal routes in the latter part of the eighteenth and the early part of the nineteenth centuries.

In 1825 President Bolivar, of the Republic of New Granada, gave a franchise for a canal at Panama to a Frenchman, Baron Thierry, who failed in raising the required capital. President Bolivar then commissioned a British engineer, Mr. J. A. Lloyd, to survey the Isthmus for either road or canal.

While some negotiations were undertaken by citizens of the United



States prior to 1830, the year 1835 really marks the entrance of the United States into the history of the canal, through a resolution introduced in the senate by Henry Clay, in persuance of which President Jackson commissioned Mr. Charles Biddle to visit the Isthmus and report on the availability of the different routes for inter-oceanic communication. Mr. Biddle proceeded to Chagres, the only available Atlantic port, thence to Cruces by boat, and to Panama by mule back.

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This view shows the digging of the Culebra Cut which is nine miles in length and is 500 feet wide at the bottom.



With the assistance of Don Jose Obaldia, the father of the second president of the Republic of Panama, he obtained a franchise to build a railroad across the Isthmus, but on account of the panic of 1837, the United States was not in condition to finance the undertaking, and the matter was dropped.

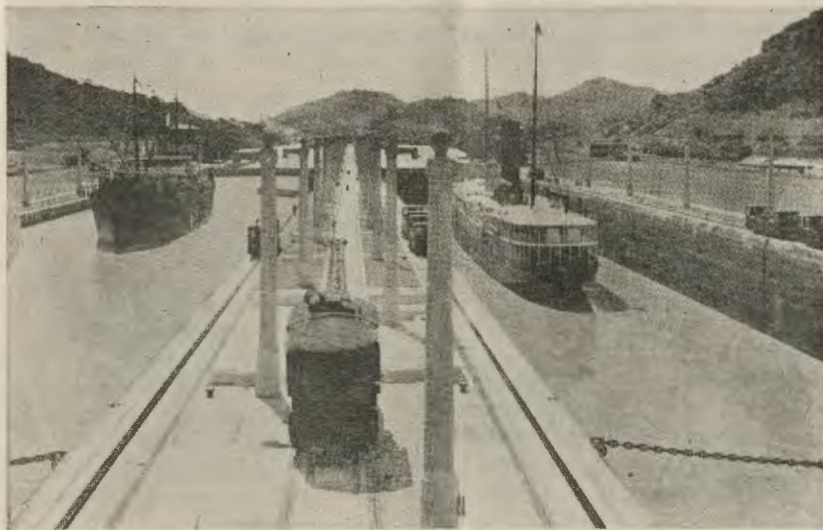
In 1838 a concession was granted to a French company for the construction of highways, railroads, or a canal across the Isthmus. The French government became interested and sent an engineer, Napoleon Garella, to report on the enterprise. He advocated a canal as the only adequate means of communication across the Isthmus. The concession was, however, allowed to lapse for lack of capital without performing any work.

The attention of the American people was again turned to transportation via the Isthmus by the settlement of the northwest boundary question, by which we came into possession of Oregon, and by the Mexican war, which added California to our possessions. Communication overland to the Pacific slope was difficult and dangerous, which deflected the main current of immigration via Cape Horn. To render this newly acquired territory more accessible, lines of steamers from New York to the Isthmus and from the Isthmus to California and Oregon were inaugurated by Americans, having in view the construction of a railroad as a connecting link across the Isthmus, from which they would derive the greater part of their profits. Securing a franchise therefor from the government of New Granada in 1848 Messrs. Aspinwall, Stevens and Chauncey entered upon the construction of the Panama Railroad from Aspinwall (now Colon) to Panama, a distance of forty-seven miles. Untold hardships were suffered during the construction work in this low marsh and swamp where filth and disease were carried by the billions of mosquitos that infested the Isthmus, and it is said that every tie placed in the road cost a human life. After spending six years and over eight million dollars, the road was completed in 1855 and formed the second step in the advancement of transportation across the Isthmus.

Under its very advantageous concession, the Panama Railroad



Company held exclusive right to construct a railroad or canal in a certain territory, which gave it complete control of the Panama route, which by subsequent modification dated from ninety-nine years from 1867. First class railroad fare for many years after the road was opened was \$25 across the Isthmus—over 50 cents per mile. The time of passage was



*THE PEDRO MIGUEL LOCKS*

four hours. The road has paid a dividend as high as 44 per cent on the investment.

Railroad communication across the Isthmus was now finally established and the construction of a canal was relegated to the background, as far as the territory controlled by the Panama Railroad was concerned. Meanwhile other canal routes were exploited by a small army of promot-

ers, and altogether 19 different routes have been suggested and received more or less attention. Of these the Tehuantepec, Nicaragua, Panama, and Darien projects are the most important, and Nicaragua has been Panama's principal rival during the last thirty years.

In 1869 the United States again took up the canal question and President Grant appointed an inter-oceanic canal commission. Negotiations were entered into between our government and the United States of Columbia and a treaty was signed in 1870 and provided that the work would be undertaken if a satisfactory route could be surveyed.

The territory covered by the Panama Railroad Company's franchise was respected, and an examination was made of other less favorable routes and finally reported favorably on the Nicaragua route in 1876. Nothing was done and the United States temporarily lost its opportunity and the representatives of France stepped in and remained in control of operations for twenty-eight years, or until 1904, when they retired defeated, in favor of the United States.

The Universal Inter-oceanic Canal Company, by which the work was performed, was organized and incorporated by Ferdinand de Lessops in Paris in 1878. The Panama route was surveyed and a concession obtained from the Columbian government for the construction of a canal on any part of the Isthmus, with the understanding that the company would make satisfactory arrangements with the Panama Railroad Company in case the latter's territory was invaded. De Lessops convened a congress known as the "International Congress of Surveys for an Inter-oceanic Canal," in Paris in 1879, which pronounced in favor of a sea-level canal from Limon bay to Panama bay, at a cost of \$240,000,000 and time of completion twelve years. The Universal Inter-oceanic Canal Company was then formed with De Lessops at its head. The control of the Panama Railroad was secured through the purchase of its stock for \$18,000,000. Work was begun and pushed vigorously on the sea-level plan, as De Lessop's success at Suez made him a strong advocate of the sea-level type. The plans included a tunnel through the continental divide at Culebra, and the currents due to the difference of the

tides of the two oceans (the tide on the Pacific being twenty-two feet while that of the Atlantic is only four) were to be reduced by sloping the bottom of the canal on the Pacific side. The tunnel through the divide was changed to an open cut, and in 1887 the evident impossibility of completing the work within a reasonable cost led to the substitu-



THE MIRAFLORES LOCKS

tion for the sea-level plan of one involving temporary locks. Work was continued until 1889, when the company went into bankruptcy. A receiver was appointed and work was suspended on May 15th after having spent over \$260,000,000—and excavating 66,700,000 cubic yards of dirt at a cost of nearly \$4 per cubic yard.

The new Panama Canal Company was formed in October 1894, and



resumed operations on the canal, principally in Culebra cut in accordance with plans recommended by a commission of engineers. This company continued to do sufficient work to maintain its franchise until all of its rights and property were transferred to the United States government in 1904.



*RELIEF MAP OF THE ISTHMUS SHOWING THE PANAMA CANAL, LOCATION OF LOCKS ETC.*

Progress having practically ceased at Panama under the new French Canal Company, to meet the growing sentiment in favor of more satisfactory inter-oceanic communication, on March 3, 1899, the congress of the United States passed an act authorizing the president to make full and

complete investigations of the Isthmus of Panama with the view to the construction of a canal. The act of congress of June 28, 1902, known as the "Spooner Act," authorized the president to proceed with the construction of a canal by the Panama route, provided arrangements could be made with the New Panama Canal Company for the purchase of its

property and franchise for not exceeding \$40,000,000, and provided arrangements could be made with the Republic of Columbia for the control of the necessary right of way. In the event of failure of these negotiations, the Nicaragua route was to be adopted. Appropriations were made to

carry out the provisions of this act and a bond issue of \$130,000,000 was authorized.

After a long delay a satisfactory treaty with Columbia was formulated, but was rejected by Columbia in 1903.

The province of Panama, an integral part of Columbia, thereupon seceded and organized an independent republic with an area of 31,000 square miles. This resulted in the negotiation of a satisfactory treaty with the new Republic of Panama, including the payment under certain terms of \$10,000,000 by the United States and an annual payment of \$250,000, beginning in 1913. Under this treaty the United States guaranteed the independence of the Republic of Panama and secured absolute control over what is now called the Canal Zone, a strip of land ten miles wide, with the canal through the center, and extending from sea to sea, with an area of about 44 square miles. The cities of Panama and Colon, while within the limits of the Canal Zone, are excluded from the Zone and are considered Panamanian territory, although the United States has, under the treaty with the Republic of Panama, the right to regulate sanitation, and if necessary to preserve order, to enter the cities with armed forces and take possession of them.

Our government has spent more than \$17,000,000 in making the Canal Zone sanitary and habitable. This was the first work of our government when preparing for the gigantic task of construction, and today the Canal Zone ranks among the first in the sanitary conditions of the world. All credit is due the sanitary officers of our army who have fought untiringly to affect this great change. Each year \$38,000 is appropriated for the street cleaning and sanitation of Panama City alone, and the commission is asking for an appropriation of \$50,000 this year to further their work.



And here, after ten years of incessant toil and true American spirit combined with brains and money, stands as a monument the greatest engineering feat in history—the realization of a dream of over four hundred years—the Panama Canal.



CULEBRA CUT  
(Completed)

The boats enter from the Atlantic ocean, through the government jetties into the Bay of Limon, beyond which lies the old Spanish city of Colon and Cristobal.

Through the bay is a channel seven miles in length, through which the boat passes under its own steam until it reaches the Gatun locks. Here its power is shut off, as boats are not allowed to pass through the locks under their own steam.

On top of the locks are large Electric Locomotives, called the Electric Mules, used in towing the boats up and down the locks. After the boat



has been towed into the lower lock, the gates are closed. A large culvert underneath the lock, eighteen feet in diameter, is opened, letting the water from the lock above, down into the lower lock, at the same time raising the boat to the level of the water in the lock above, which in this case is twenty-eight feet and four inches. In all three locks in the Gatun series the boat is raised eighty-five feet above sea level. It takes an hour and a half to pass through the locks—they cost \$25,000,000 to construct. Each lock is a thousand feet in length and one hundred and ten feet wide. The gates are from forty-seven to seventy-eight feet in height, seven feet thick and weigh from 390 to 780 tons each. These enormous gates are operated by electricity and can be opened and closed in a minute and a half.

After the boat has passed through the Gatun locks, it enters Gatun Lake, which is the largest artificial body of water in the world. Its area is 164 square miles. This lake was made possible by the damming of the Chagres river at Gatun dam. Gatun dam is 169 feet high, 2,100 feet long at the bottom and over 8,000 feet long at the top. At the bottom or base of the dam is a large hydro-electric plant which furnishes the electric power used throughout the entire Canal Zone. Upon Gatun dam depended the success or failure of the Canal, for without it there would have been no Gatun Lake, through which is a channel twenty-three miles in length. The route of the channel is marked by gas buoys and on the hills are range lights from which the pilots take their course. This channel is from 300 to 1000 feet in width and from 41 to 50 feet deep.

After the boat has passed through Gatun Lake it enters the Gaillard Cut (Culebra Cut), named in honor of Col. Gaillard, a sanitary officer who lost his life during one of the slides. Gaillard Cut is nine miles in length, 500 feet wide at the bottom, and Gold Hill, its highest point, is 525 feet high. Some idea of the amount of rock and dirt taken from this cut may be obtained, that were it placed on flat cars, it would reach four times around the earth, or one hundred thousand miles.

Across the Atlantic end of the Cut was built what was known as Gamboa Dike. This dike was built to dam the waters of Gatun Lake

from flowing into the Cut while it was being dug. In October, 1913, this dike was blown up, and the newspapers reported the story that it was the celebrating of the wedding of the waters of the Atlantic and the Pacific. Gatun Lake is 85 feet above the sea level and the waters of the Atlantic and the Pacific will never meet in the Canal as it is now built. So the story of the wedding and mingling of the waters of the Atlantic and the Pacific was simply poetical fiction.

After the boat has passed through the Gaillard Cut it enters the Pedro Miguel Locks. Here the boats are lowered 30 feet into Mariflores Lake. Mariflores Lake is also an artificial body of water one mile and a half in length. Through it is a channel permitting the boats to enter the Mariflores Locks. Here they are lowered 55 feet back to the level of the ocean, and pass out into the Pacific through what is known as the Pacific Channel, which is nine miles in length and cost four million dollars to dredge.

It takes from nine and one-half to twelve hours to pass from deep water to deep water. The Canal proper is forty-one miles in length.

The cost of operating the canal will exceed four million dollars annually. And to pay the interest and operating expenses, approximately a fifteen million dollar revenue will be needed.

The rate is \$1.20 per ton, the same as charged on the Suez Canal; passengers are carried free.

Warships of all nations may pass through the canal, but cannot remain at either entrance more than 24 hours during war time.

There are fortifications at both entrances which have been constructed at the cost of \$12,000,000. There are also wireless stations of the most modern and long range type.

The Panama Railroad was first constructed in 1855 by American capital. It then ran through what is now a large part of Gatun Lake, but since it has been taken over by our government it has been re-laid and re-built upon higher ground at a cost of nine million dollars.

The Canal lies directly south of western New York State. The Isthmus at this point runs almost directly east and west. The canal is

dug across from the northwest to the southeast. So that to the residents of the City of Panama, the sun rises out of the Pacific to his east in the morning and sinks in the Atlantic to his west at night.

The Canal will bring the western coast of the United States seven thousand miles nearer to Liverpool, eight thousand miles nearer to New York City by water. It in fact makes the Pacific coast line an extension of the Atlantic coast line in regard to European trade. It means that we can develop our rich and fertile valleys to grow the raw product, to utilize the vast deposits of coal and oil, to harness the rivers now flowing down our mountain sides, to develop the power to manufacture the raw article into the finished product and supply the markets of the world.

It means the building of a new empire upon the Pacific Coast of which San Diego is the first port of call.

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*Electroquettes*

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NOTE. Not a moving picture, but depicts actual air ships and battle ships in action.

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