The Panama Canal
The Americas
A Continent of Friendly Nations
THE PANAMA CANAL

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THE LAND DIVIDED. THE WORLD UNITED. Thus
the Panama Canal is often described. Sometimes it is
called "a dream of centuries finally come true."

For more than four hundred years men of many nations
dreamed of a canal across the Isthmus of Panama. Vasco
Nuñez de Balboa, the first white man to look upon the
waters of the Pacific, hoped to see a canal built across the
Isthmus. Later, in 1550, a Portuguese navigator published
a book in which he showed how a canal could be cut across
the Isthmus. At different times the Spanish Crown was
interested in building such a canal. For hundreds of years
many canal building projects were planned.

At last in 1880 a French company secured from Colombia
the right to build a canal. Panama was then a part of the
Republic of Colombia. Ferdinand de Lesseps, the engineer
who had gained fame by constructing the Suez Canal, was
to construct the Panama Canal and work began in February,
1881. Enormous sums of money were raised in France for
the construction, but much of it was spent foolishly and
from the first the project was badly managed. There was
so much enthusiasm for the finished canal that many over-
looked the fact that long years of hard work lay ahead
before it would be completed.

The greatest obstacle to success was tropical disease.
Modern methods of sanitation and preventive medicine were
unknown and malaria, yellow fever and typhus swept the
army of workers and thinned their ranks. The fact that
certain mosquitoes carried typhoid and malaria had not
yet been proved.

Despite the failure of the French, they did a vast
amount of good work, which was of value to the Americans
when they came later. They also benefited by the experience of the French. The French Company which began work in 1881 gave it up in 1889 and for a short time another French company tried, but soon failed too.

The next nation to try—and this time succeed—was the United States. Long before the French began the canal, there had been interest in such a canal in the United States. When gold was discovered in California in 1849, Panama became a pathway to the West for people who preferred the round-about way by the Isthmus to the long and dangerous trip across the continent. In the middle of the nineteenth century an American company built a railroad across the Isthmus. A little later the Civil War temporarily put a stop to talk of building a canal. Next the French began and failed. But with the outbreak of the Spanish American War interest again centered on a canal.

Early in 1898 the S. S. Oregon of the United States Navy was in the Pacific but was urgently needed at Cuba. It was
ordered back. For months people anxiously followed its slow progress down the west coast of South America, around Cape Horn, then northward. It took seventy-one days to make the trip of 13,400 miles. A canal would have shortened the voyage from the Pacific to the Atlantic by more than eight thousand miles.

But while people agreed that a canal was necessary to our defense as well as a good thing for trade, they could not agree on where it should be built. Some wanted it to cross Nicaragua. Others favored Panama. Finally Congress voted to have the canal built at Panama if the United States could get the right to do so from Colombia. If this was not possible, it would be built in Nicaragua.

About this time a volcano erupted on the Island of Martinique and a few days later many members of Congress received copies of an important letter. In it was a Nicaraguan postage stamp which showed a volcano near the route of the canal and from it a thin line of smoke escaping. Below the stamp were these words: "An official witness of the volcanic nature of Nicaragua." The letter had been sent by Bunau Varilla, a Frenchman who was anxious to have the canal built at Panama. It helped Congress to decide on Panama for the canal.

Control house and tracks near locks, Canal Zone
Many arrangements had to be made before the work was actually begun, however. These negotiations dragged on for a long time. At last the United States paid the French company forty million dollars for the Panama Railroad, the work it had done and the equipment still there. Rights to build the canal still had to be secured from Colombia. But the two countries could not agree on the amount to be paid for this right and before an agreement was reached Panama revolted and declared her independence of Colombia in November, 1903. The United States had little difficulty in securing an agreement with the Republic of Panama to proceed with the construction of the canal. By the terms of the treaty, the United States was given the use and control of the Canal Zone, a strip of land five miles wide on either side of the Canal. Ten million dollars was paid for the right to build the canal and the yearly rent fixed at $450,000. On May 4, 1904, at half past seven in the morning, Lieutenant
Mark Brooke of the United States Army took possession of the Canal Zone and raised the American flag.

One of the first things necessary was to solve the problem of health. Men from all over the world went to Panama to work on the Big Ditch, as they called it. To feed, house and keep healthy such an army of workers was almost as big a job as to dig the canal. Fortunately, Colonel Gorgas took over this task. His experience in Cuba where he had worked with others to rid the island of yellow fever and malaria had well fitted him for his position at Panama.

He set an army of workers to clear jungle, drain swamps and spread oil on marshes and pools of water. He insisted on having the houses screened. He had food inspected and drinking water boiled. A bottle of liquid quinine became a requirement on every restaurant table, and quinine tablets were passed daily among the men at work just in case someone forgot to take it with his meals. People grumbled
about the expense of Gorgas' program, but he pointed to the reduced death rate and the decreasing numbers of cases of yellow fever and malaria. Finally, the Isthmus was cleared of fever.

While Colonel Gorgas worked to keep people healthy, Colonel Goethals performed the tremendous task of directing the construction work. Today the building of the canal is still considered a great piece of engineering, and one of the most remarkable examples of cooperation among workmen.

Goethals' task would not have been so difficult had the Isthmus been a flat land. But only fifteen miles of the canal are on the same level as the oceans. The rest of the waterway is built on a plateau eighty-five feet above sea level. Nine miles of the canal pass through Gaillard Cut (formerly called Culebra Cut) slashed through the ridge of the Continental Divide. The waters of the Chagres River were dammed to form a large artificial lake in the central part of the canal. Three sets of locks—one at Gatun, another at Pedro Miguel and the third at Miraflores—were built to raise and lower ships in their passage between the oceans.

To accomplish these enormous tasks required the work of a great army of faithful workers. It re-
quired the determination to work on in the face of obstacles, and the courage to begin again after each failure. Time and again, landslides in a few minutes filled in what the men had worked weeks, even months to excavate. The tropical climate was trying to those not accustomed to it, and far from home many were often desperately homesick.

Meanwhile construction went forward on new towns. On the Atlantic side next to the Spanish city of Colon, the American city of Cristobal was built. At the Pacific side of the Isthmus the towns of Ancon and Balboa were built on the Canal Zone, the former next door to the city of Panama, capital of Panama. Smaller towns were built between the Atlantic and Pacific.

In addition to the homes, these towns included commissaries where supplies could be purchased, dispensaries which took care of health problems, schools, churches, recreation centers and parks.
It would take a long book to tell about all the work done to bring the canal to completion. But at last on August 15, 1914, the S. S. Ancon, freshly scrubbed and decorated, with two hundred passengers aboard made its way through the Canal. Those who had worked on the Canal for so long and dreamed of this moment waited anxiously as the ship came to the locks. But everything worked smoothly. The Canal cost the United States $375,000,000 to build. Because the Isthmus is shaped like the letter S, the canal actually extends from the Atlantic southeast to the Pacific, so that the Pacific end of the Canal is farther east than the Atlantic.

A great deal of machinery made especially for this purpose is used in operating the Canal. This, briefly, is what happens when a ship passes through the Canal from the Atlantic to the Pacific side.

Just inside the opening in the breakwater, a great wall built to break the force of the Caribbean Sea, the canal
begins. It is fifty miles from ocean to ocean. Seven miles beyond the entrance the ship comes to the Gatun Locks. These are twin locks so that ships may pass through on both sides like a double track railway. The ship’s power is cut off. Deck hands cast lines to connect with steel cables which soon are drawn taut by four small electric locomotives—“mules” they are called—which guide and steady the ship. Behind the ship, two great gates, each weighing hundreds of tons, silently close. Ahead a massive chain is raised from the water to keep the ship from crashing into the closed gates in front. Below, water admitted through huge culverts is churning and foaming. When enough water has entered to raise the ship twenty-eight feet, the gates ahead open and the ship is drawn into the next chamber. Three times the ship is lifted in this way at the Gatun Locks until it is eighty-five feet above sea level. The gates are opened again and the ship steams out into Gatun Lake under its own power.
The trip across Gatun Lake is one to remember. On its shores are blossoming shrubs, graceful palms and many trees from which hang long streamers of Spanish moss and orchids. Tiny islands dot the waters of the Lake, in which large blossoms of water hyacinths and their long coarse stems become so tangled that they have to be gathered into great bunches and destroyed with acid to keep them from getting in the way of the ships. Strangest of all the sights is the "dying forest," the skeletons of trees that grew here before the lake was formed.

From Gatun Lake the ship passes through Gaillard Cut—a great gash between reddish brown walls of earth. Once through the Cut, the ship must be lowered to bring it to the level of the Pacific Ocean. At the Pedro Miguel Locks the ship is lowered thirty feet. This is done in much the same way that it was raised at Gatun Locks, except that instead of letting water in the lock chambers to raise the ship, the water is let out to lower it to the next step.
From Pedro Miguel the ship makes the short trip across Miraflores Lake, where it is lowered to sea level in two more steps. The channel of the Canal passes Balboa harbor, Balboa Heights and the great earthwork or mole that leads to the fortified islands which form part of the Canal defenses. At last the ship is out on the Pacific Ocean, from eight to twelve hours after it left the Atlantic side. To pass through the Canal it is necessary to open and close twenty-three lock gates, open and shut dozens of valves and lower or raise twelve fender chains. All of this work is controlled by one man at the central switchboard at each set of locks. Sitting high up in the control house, he is able to look over the entire locks he wishes to control. On his control board is a miniature set of locks exactly like those he controls.

Ships passing through the Canal pay a toll. Large steamships pay as high as $30,000 for the passage, and an average-sized ship pays from $5,000 to $10,000. Although this is a large sum of money, it is less expensive to make the trip through the Canal than to pay the wages for the crew on a longer voyage, and wear and tear on a ship is much less.

Not only Balboa but many of the other early explorers would be astonished at the distances saved by the Canal. On a trip from New York to Valparaiso, Chile, the traveler cuts off four thousand miles, and nearly nine thousand on a trip from New Orleans to San Francisco. Not only the United States but all of the American Republics and other nations of the world as well have benefited through being able to use the Panama Canal. Trade has speeded up and increased. Port cities have grown and tourist travel has been made easier.
But if the Canal is an extraordinary advantage to the United States, it is also a great responsibility. The lifeline of the nation, it is sometimes called, for on its security depends the defense of the Americas. Armed forces are constantly on the alert to guard the Canal against attack, as well as to prevent internal trouble or sabotage. An air patrol aids the Special Service Squadron of destroyers and submarines in this work of defense which includes lights, aerial detectors, and batteries of anti-aircraft guns.

Military and naval bases established on the semi-circle of islands in the Caribbean Sea may be used by all the nations of the Western Hemisphere.

Since the Canal was completed, the size of ships has greatly increased. Larger locks are needed to pass these enormous vessels through the Canal, as well as to provide a spare set of locks should the others be damaged in any way. Again workmen are slashing their way through tropical growth to build an extra set of bombproof locks. The lock chambers will be two hundred feet longer and thirty feet wider than the first locks. In this way they will be able to take care of any ship now afloat or likely to be built for many years.
THE PAN AMERICAN UNION is an international organization maintained by the twenty-one American Republics. It was established in 1890. The purpose of the Pan American Union is to promote peace, commerce and friendship among all the Republics. The Union is supported by annual contributions from all the countries in amounts proportional to population.

The special divisions maintain close relations with private and governmental organizations as well as with individuals in the countries members of the Union. These divisions gather information on foreign trade, health, statistics, education, economics, intellectual cooperation, agriculture, travel, and labor and social information and many other subjects.

Inter-American conferences are organized by the Pan American Union from time to time. Some of these conferences have been held in the Pan American Union building in Washington, D. C.

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